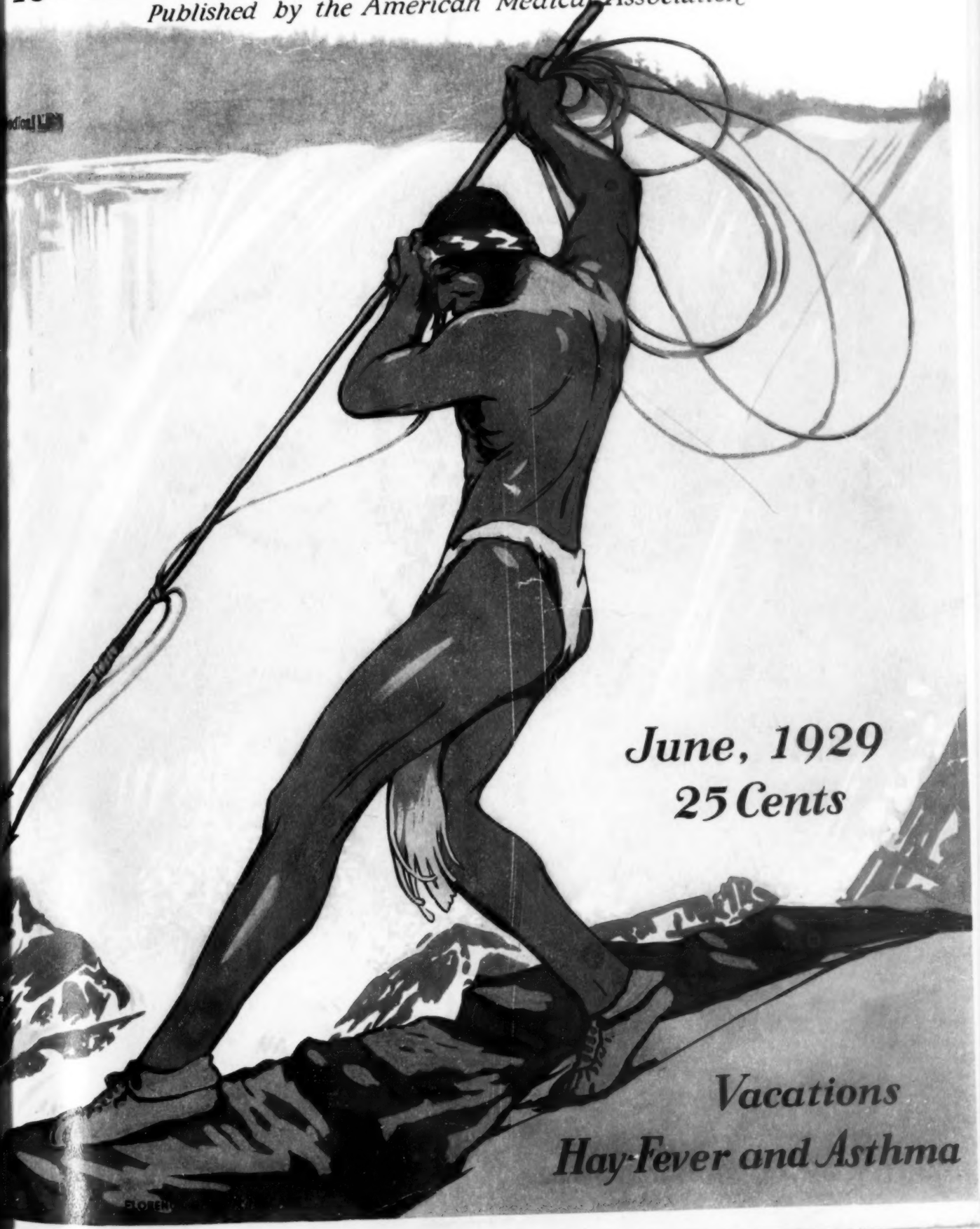
MAY 2 3 1929

HYGEIA

THE HEALTH MAGAZINE

Published by the American Medical Association



June, 1929
25 Cents

Vacations
Hay-Fever and Asthma

"We are advertised by our loving friends"

Mellin's Food—A Milk Modifier

Baby's Food

Prepare bottle feedings from Mellin's Food and milk.

No cooking, no fussing, just a few minutes' work and the full day's feeding is ready.

Easy to feed, for all babies like the taste of Mellin's Food mixtures.

Contains all food elements essential to growth and development.

Readily assimilated for nourishment—no heavy, tough curds to cause colic, constipation or other digestive disturbances.

Mellin's Food Biscuits

Especially suitable when it becomes time to wean the baby from the bottle

Mellin's Food Biscuits

A sample box sent free, postage paid, upon request.

Mellin's Food Company, Boston, Mass.

HYGEIA, the Health Magazine, is published monthly by the American Medical Association, 535 North Dearborn Street, Chicago, Ill. Yearly subscription price, $3.00; for foreign postage add 50 cents. Volume 7, Number 6. Entered as second-class matter March 21, 1923, at the postoffice at Chicago, Ill., under the Acts of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1.103, Act of October 3, 1917, authorized March 21, 1923.

HYGEIA

THE HEALTH MAGAZINE

Published by the American Medical Association
Edited by Morris Fishbein, M.D.

VOLUME 7 — JUNE, 1929 — NUMBER 6

TABLE OF CONTENTS

COVER DESIGN
Florence Gibson McCabe — PAGE

FRONTISPIECE—HEALTH ALMANAC 568
VACATIONS À LA BERGSON 569
Jesse Feiring Williams
WHAT A BABY OF TWENTY MONTHS LIKES TO DO ... 572
Mary Sherburne Warren
FOOD HABITS AND LONG LIFE 573
Solomon Strouse
OUR PHOTOGRAPHIC MACHINES 578
Aaron Brav
A SOCIAL MENACE 581
John A. Kolmer
DIETING 584
Alberta M. Dredla
ASTHMA AND OTHER ALLERGIC CONDITIONS 585
Milton B. Cohen
HAY-FEVER AND ASTHMA QUACKERY 590
Arthur J. Cramp
THE RUNABOUT CHILD AND HIS PROBLEMS—X. THE GIST OF IT ALL 593
Frank H. Richardson
HEALTH CONSERVATION IN THE ARMY—IN RETROSPECT 595
Surgeon General M. W. Ireland
SUMMER OCCUPATIONS FOR THE CHILDREN 600
John C. Baldwin

PAGE

SIMPLE LESSONS IN HUMAN ANATOMY—LESSON V. THE SKELETON 603
B. C. H. Harvey
TUBERCULOUS PHYSICIANS AND THEIR CONTRIBUTIONS—EDWARD L. TRUDEAU 609
J. A. Myers
YOUR CITY AND YOUR HEALTH—III. SANITATION AND EDUCATION 611
W. W. Bauer
WHY FEAR AN ANESTHETIC? 615
Barbara H. Davis
VARIOUS VEGETABLE SALADS 616
Elizabeth Shaffer
PLAIN FACTS ABOUT HEALTH AND DISEASE:
Digestion and the Emotions 618
The Doctor and Advertising 618
What People Believe 620
PHOTOGRAPHS WITH A HEALTH INTEREST 621
THE SEVENTH GAME 624
Blanche J. Dearborn
A LETTER FROM AUSTRALIA 628
HEALTH AND THE SCHOOL 630
Edited by J. Mace Andress
NEW BOOKS ON HEALTH 634
QUESTIONS AND ANSWERS 635

WHO'S WHO IN THIS ISSUE

DR. JESSE FEIRING WILLIAMS, professor of physical education at Teachers College, Columbia University, who wrote the stimulating and timely article on vacations, is an authority on health education. He is the author of many articles and books in his field, notable among them being "Personal Hygiene Applied," which is widely used as a textbook. DR. SOLOMON STROUSE is a specialist in matters of diet. DR. AARON BRAV is an eastern ophthalmologist.

DR. JOHN A. KOLMER recently wrote an article for HYGEIA on animal experimentation. DR. MILTON B. COHEN has made an exhaustive study of the cause and treatment of asthma and allergic diseases. DR. ARTHUR J. CRAMP, director of the Bureau of Investigation of the American Medical Association, presents an unhappy side of the same picture, the quack remedies sold to indiscriminating asthma sufferers.

June brings the end of DR. FRANK HOWARD RICHARDSON'S series of articles on children. It is probable that "The Runabout Child" will appear in book form.

MAJ.-GEN. MERRITTE W. IRELAND was appointed Surgeon-General of the U. S. Army in 1918 at the retirement of Gen. W. C. Gorgas. DR. IRELAND had been connected with the office for a number of years and had served in Cuba and in the Philippines. During the World War he was Chief Surgeon of the A. E. F.

DR. JOHN C. BALDWIN, an eastern physician, gives practical advice about children's vacations. The HARVEY series on anatomy continues to arouse much interest, while DR. J. A. MYERS' historical sketches of tuberculous physicians end with this issue. DR. W. W. BAUER'S exposition of the functions of a health department completes his set of three articles on this subject.

BARBARA H. DAVIS, as a registered nurse, believes that the public mind should be disabused of the idea that anesthetics are dangerous, painful or conducive to damaging revelations on the operating table. ELIZABETH SHAFFER lives in Albuquerque, N. M.

BLANCHE J. DEARBORN is a favorite with HYGEIA'S child readers and this seems to be one of her best stories. Inspired by KATHERINE RANGER'S letters from foreign countries, which appeared in HYGEIA within recent months, NOEL GUTTERIDGE, Australian correspondent of *The Journal* of the American Medical Association, wrote the charming children's letter for this month, which is illustrated by an Australian artist.

Published monthly by the American Medical Association, 535 North Dearborn Street, Chicago. Subscription price $3 a year. Single copies 25 cents. Foreign subscriptions $3.50 a year.

Copyright, 1929, by the American Medical Association. All rights reserved.

Bobbs Sternberg Carroll Carrel

Health Almanac

JUNE, 1929

1 IT IS THE MONTH of June,
The month of leaves and roses,
When pleasant sights salute the eyes
And pleasant scents the noses.—N. P. Willis.

2 HEALTH is the second blessing that we mortals are capable of; a blessing that money cannot buy.
—Izaak Walton.

3 A MAN'S OWNE OBSERVATION, what he findes good of and what he findes hurt of, is the Physicke to preserve Health.—Sir Francis Bacon.

4 MODERN PROVERB: Public health is a purchasable commodity.

5 JAMES CARROLL, of the famous Yellow Fever Commission, was born in England, June 5, 1854, developed yellow fever after voluntary inoculation, and did original research of importance on the disease.

6 ON JUNE 6, 1822, occurred the accident to Alexis St. Martin, which permitted William Beaumont, pioneer surgeon, to make his epochal observations on digestion.

7 "A WOMAN'S FACE is her fortune," said the professor, pointing to the proprietor of the beauty shop.

8 DR. GEORGE MILLER STERNBERG, hygienist, epidemiologist and surgeon-general, noted for research in bacteriology, was born in New York, June 8, 1838, and died in Washington, Nov. 3, 1915.

9 JOHN HENRY CARSTENS, long the best known surgeon of Michigan, was born in Kiel, Germany, June 9, 1848, and died in Detroit, Aug. 7, 1920.

10 NOTHING GREAT is produced suddenly, since not even the grape or the fig is. If you say to me now that you want a fig I will answer to you that it requires time; let it flower first, then put forth fruit, then ripen.—Epictetus.

11 JOSEPH WARREN, famous American physician and patriot who died in the battle of Bunker Hill, was born, June 11, 1741, and died, June 17, 1775.

12 CAN YOU ACCOUNT HIM wise or discreet that would willingly have his health, and yet will do nothing that should procure or continue it?
—Robert Burton.

13 JOHN CHALMERS DA COSTA, well known physician and medical investigator of Philadelphia, was born in Pottstown, Pa., June 13, 1871, and died in an automobile accident, April 26, 1920.

14 THIS IS FLAG DAY, when everybody who remembers the words of the "Star Spangled Banner" can congratulate himself on having a good memory. "Oh, say, can you see—!"

15 DR. JOHN STOUGH BOBBS did the first operation for removal of gallstones (cholecystotomy), June 15, 1867, in Indianapolis.

16 INSANITY is often the logic of an accurate mind overtasked.—Oliver Wendell Holmes.

17 DR. EDWARD A. SPITZKA, noted for his studies of the human brain, who examined the brain of Czolgosz, assassin of William McKinley, was born, June 17, 1876.

18 ON JUNE 18, 1815, Napoleon lost the battle of Waterloo, thus ending forever (or are we mistaken?) warfare between the countries of Europe.

19 FASHION TOOK the hatpin away from woman and left her with nothing but an automatic revolver with which to defend herself.—Toledo Blade.

20 A MOTHER HAS, perhaps, the hardest earthly lot; and yet no mother worthy of the name ever gave herself thoroughly for her child who did not feel that, after all, she reaped what she had sown.
—Henry Ward Beecher.

21 FROM BRIGHTENING FIELDS of ether fair disclosed,
Child of the Sun, refulgent Summer comes.
—Thomson.

22 ON JUNE 22, 1884, A. W. Greely and six survivors of his Arctic expedition were rescued. Their first words were, "Take us where it is warm."

23 ON JUNE 23, 1683, William Penn signed his treaty with the Indians, guaranteeing them peace and friendship; and now, after some two hundred and fifty years, look what the treaty has done for them!

24 OUR PLEASURES and our discontents,
Are rounds on which we may ascend.—Longfellow.

25 SAID COLTON: "Money is the most envied, but the least enjoyed; health is the most enjoyed, but the least envied."

26 AT MY LORD SANDWICH'S: where his little daughter . . . was brougth to have her cheek looked after, which is and hath long been sore. But my Lord will rather have it be as it is, with a scar in her face, than endanger it being worse by tampering.—Diary of Samuel Pepys, June 26, 1664.

27 "ONE GOOD, HEARTY LAUGH is a bomb-shell exploding in the right place," said Talmage, famous preacher, "while spleen and discontent are a gun that kicks over the man who shoots it off."

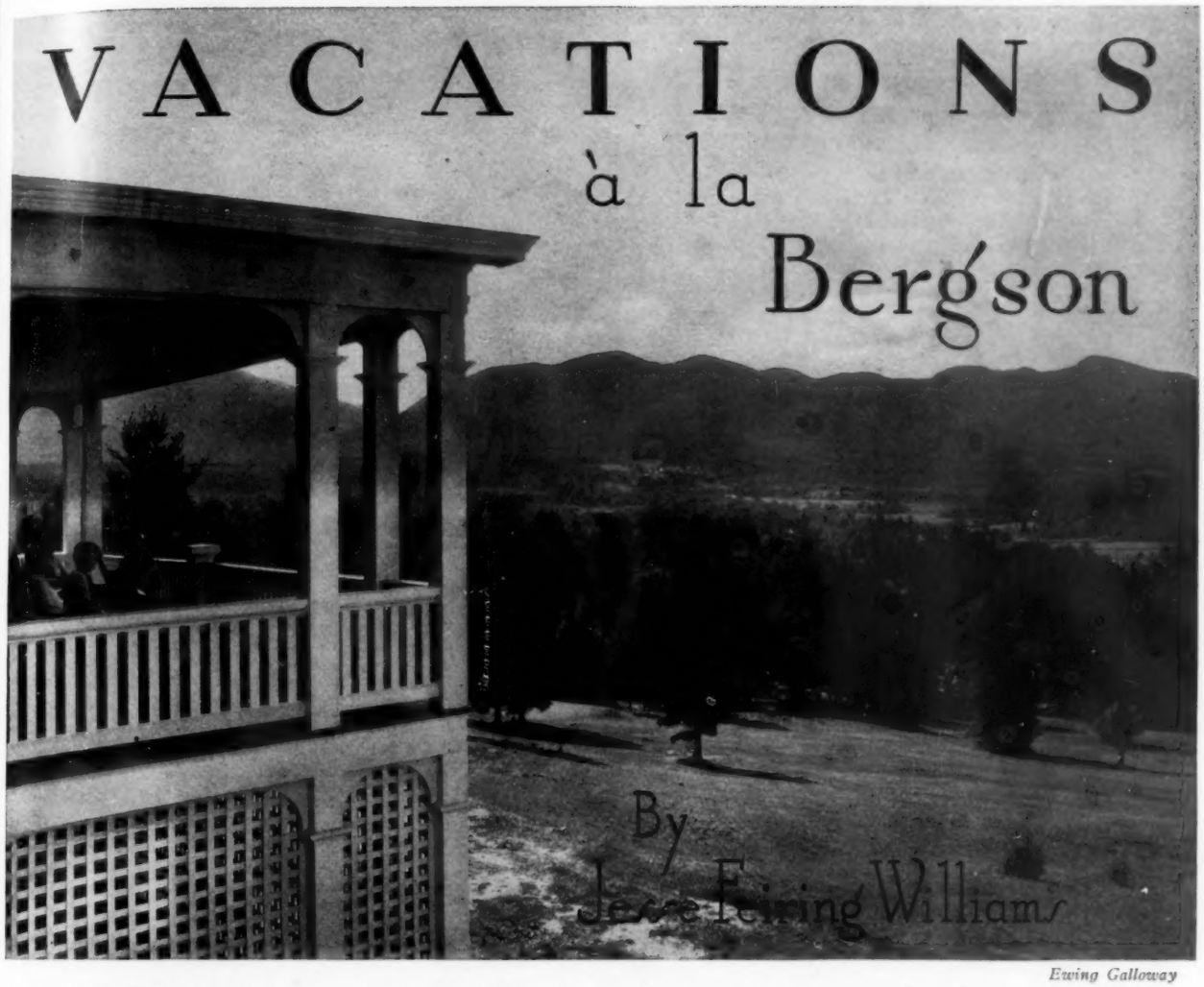
28 ALEXIS CARREL, noted for his work in vascular surgery, Nobel prize winner in medicine in 1912, was born, June 28, 1873.

29 GEORGE WASHINGTON GOETHALS, who built the Panama canal after sanitary science had made the region safe, was born, June 29, 1858.

30 JUNE FALLS ASLEEP upon her bier of flowers;
In vain are dew drops sprinkled o'er her,
In vain would fond winds fan her back to life,
Her hours are numbered on the floral dial.
—Lucy Larcom.
M. F.

VACATIONS à la Bergson

By Jesse Feiring Williams



Ewing Galloway

The lady at the boarding house in the Catskills who is unhappy when some other boarder has her favorite rocker has bowed her neck to the tyranny of time.

WHEN Abelard gathered his students about him in Paris some eight centuries ago, values were determined by dialectics; that is, by philosophy. The meaning of phenomena was more important than the cause or even the phenomena themselves.

Today philosophy is less highly valued. In an age devoted to science, popular opinion does not expect much from philosophy. And yet Henri Bergson has won recognition as one of the really great philosophers of our time. He has given a vital touch to philosophy by a scientific approach to the questions of life, human purposes and social relationships. Biology has been used as the anvil on which he fashioned new interpretations of old experiences. His observations on what he calls "duration" bear upon one of the most interesting problems that intrigues the human mind; namely, how to live, and sheds light upon one aspect of that living—how to live in vacations.

Vacation time is commonly conceived as a freedom from dull duty and irksome task or as a relief from routine that has filled one with ennui. To get away from things! To do as one pleases for a while! To be free! These are the great wishes. They range from the pent-up personality of the lady's maid to the scheduled performer anywhere in modern industry. The disciplines of the business, professional and industrial world are shaken off in vacation time and the vacationist is free!

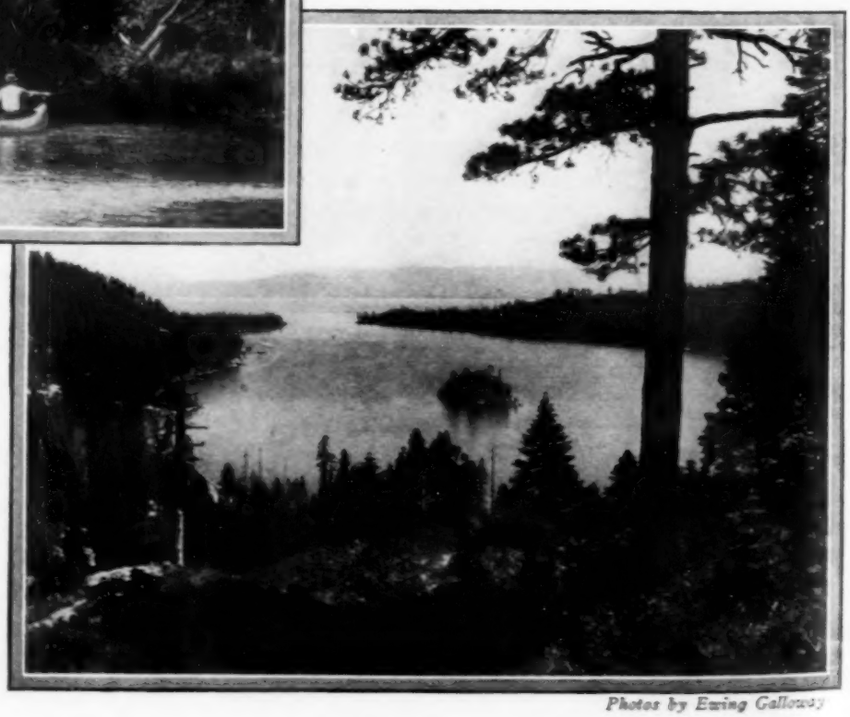
Well, is he? He may be bound by custom, by ignorance, by traditional practice. His freedom to act may mean nothing more than freedom to do the thing to which he is committed by habit. Bergson inquired into the meaning of a two-week vacation when he observed that a minute is not merely sixty seconds, one minute never the replica of a former.

Each moment of the lives of human beings has what Bergson calls duration, meaning by that more than mere time and including the con-

Vacations should be viewed in relation to the whole of life and should bring back into the remainder of the year the lessons of the woods and sea, the open air and sunshine, the laughter, smiles and play of people.

To put the activity of weeks into the first few days of a vacation is a mistake. To start a two weeks' vacation with six sets of tennis, a hike to the top of old Baldy or a swim across the lake is to mark oneself as physically illiterate.

It is possible to live adventurously with ideas, ideals, truth and beauty, and to throw off the religion of safety, precision and dull routine.



Photos by Ewing Galloway

tent that goes to make up that time. It recalls the lines of Blake:

> To see a world in a grain of sand,
> And a heaven in a wild flower;
> Hold infinity in the palm of your hand,
> And eternity in an hour.

Human lives, then, are to be viewed not merely in relation to the train of years that pass over our heads but by the ideas, feelings and acts that pass through our heads. A vacation can be marked as two weeks in time or as two weeks in duration à la Bergson. Or to use a more specific touch, one two-week vacation

Ewing Galloway

The invigorating and restoring power of vacations resides in the kind of living that goes on during them.

can be relatively longer than another two-week vacation, à la Einstein.

Vacation time is often thought of as a period of building up our health. We feel run down, tired out. The stock of health seems to be running low. Away to the mountains we go, or to the seashore, or perhaps we hazard a sea voyage. The plan may encompass a stay at Atlantic City, Lake Placid, southern California or the east coast of Florida. It matters not. Soon, according to belief, the stock of health is increased. The shelves are full again. We return to work full of energy; in the vernacular, "filled with pep, purpose and personality."

Is it so simple a process? What has happened? Have we more health really? Not at all! We have no more health than when we went away, because health is not a quantitative thing. It cannot be mass. One does not have 40 pounds of it, 20 gallons of it, or 80 yards of it. Health is qualitative. It is not mass but function. The person returning from vacation with abundance of energy, a sense of power and renewed strength is functioning better because he has been living better. He has been away from apprehensions that have long range qualities, from irritating associates perhaps, from monotonous meals and dull routine. He has been going to bed when ready and getting up when rested, playing on the sand or in the snow, laughing, smiling and moving in the outdoors. He has lived more wholesomely. His vacation has not meant more health but better living, not two weeks' time but two weeks' duration.

It is important to pursue this distinction. If the vacation has resulted in improved function of the bodily organs, it is clear that such function will persist only as the conditions of living are favorable. In short, this view of health puts a premium on living and insists that the individual must continue to experience wholesome conditions if he desires to maintain the improved function of the body.

The significance of this is well illustrated in the foolish practices of some persons. Here is a captain of industry, a lesser breed of the famous *homo sapiens,* who goes to his golf club to play golf for his health—a horrible use to which to put such a noble game—and returns from the club to violate any six of a dozen rules of health. Here is a woman who visits Atlantic City for her health, attributing the value of such an experience to the salt water baths, and returns to her apartment home with a year's supply of sea salt for her city bath.

The invigorating and restoring power of vacations resides in the kind of living that goes on. If the living is fine, health has not been increased but functioning of vital organs has improved. To maintain such functioning the conditions of living must be continued, the activities favorable to the persistent needs of man.

On the other hand, the vacation may not mean duration but time; the weeks may pass without an enrichment of function or an increase of power. This may be due to various influences, all of which are more or less controllable.

Vacation Should Bring Change

A vacation should provide something that is different from the usual. The one characteristic that marks age is the loss of sensitiveness of the nervous system to new situations, new ideas, new relationships. The vacation time ought to give freedom from established custom. This does not mean lobster palaces, race tracks and the temples of Bacchus and Venus, but it ought

to mean an elasticity of the nervous system that would encompass such things as staying up all night occasionally if one wishes to do so.

So much of modern life is marked by safety first principles that the full meaning of "He who would save his life must lose it" is often missed. It is possible to live adventurously with ideas, ideals, truth and beauty, and to throw off the religion of safety, precision and dull routine. If we must always have our lunch at 12:45, our special chair after dinner, and the end seat in church, vacation might well mean the breaking up of such rigid, inelastic practices. The lady at the boarding house in the Catskills who is unhappy when some other boarder has her favorite rocker has bowed her neck to the tyranny of time, regardless of her years.

Vacation should mean freedom to do as one pleases to do. Its value to a person depends, however, on the kind of desires one has. The young clerk who spends his year selling ribbons at Altman's may make the mistake of putting the activity of weeks into the first few days. To start a two-week vacation with six sets of tennis, a hike to the top of old Baldy or a swim across the lake is to mark oneself as physically illiterate regardless of one's trophies, medals and records of past seasons. A vacation in Europe may mean a debauch in alcohol, cathedrals or what-have-you and may stamp one as spiritually illiterate regardless of family name or church connection.

Vacations may be conceived, then, as periods of great potential value in which one may exercise, unrestrained, his inclination to live better or to live worse. If the former choice is made, then vacations represent brief opportunities to catch glimpses of the kind of living that we should like to obtain for all persons at all times. They should be viewed in relation to the whole of life and should bring back into the remainder of the year the lessons of the woods and sea, the open air and sunshine, the laughter, smiles and play of people.

A fishing trip to the north woods, leaving watches, newspapers and appointments behind; a motor jaunt to the west or east, starting anywhere and ending there each night; a season at the shore with fishing, swimming and games à la carte; a visit home "with the folks," in June helping with the haying, in August with the wheat, in September with the corn—enriched life and finer living are in any of these.

Eight hundred years since Abelard and his arguments! The mind has been freed from the tyranny of medieval superstition. The western world has surrendered to the principles of science in industry. The question of how to live finely remains for all of us as the outstanding personal problem of the day.

What a Baby of Twenty Months Likes to Do

By Mary Sherburne Warren

SHE likes to play the piano. But mother mustn't help her; mother's music isn't half so sweet as the song she plays with both hands, the book open before her. Mother must hold her, that she may reach the keys. But that is all mother is expected to do; baby is playing the piano.

She likes to run round and round the table when it is time for her bath. "Mother, catch me," her twinkling eyes challenge. Mother runs after her, around the table twice, then snatches her up with a kiss and undresses her—an exciting game!

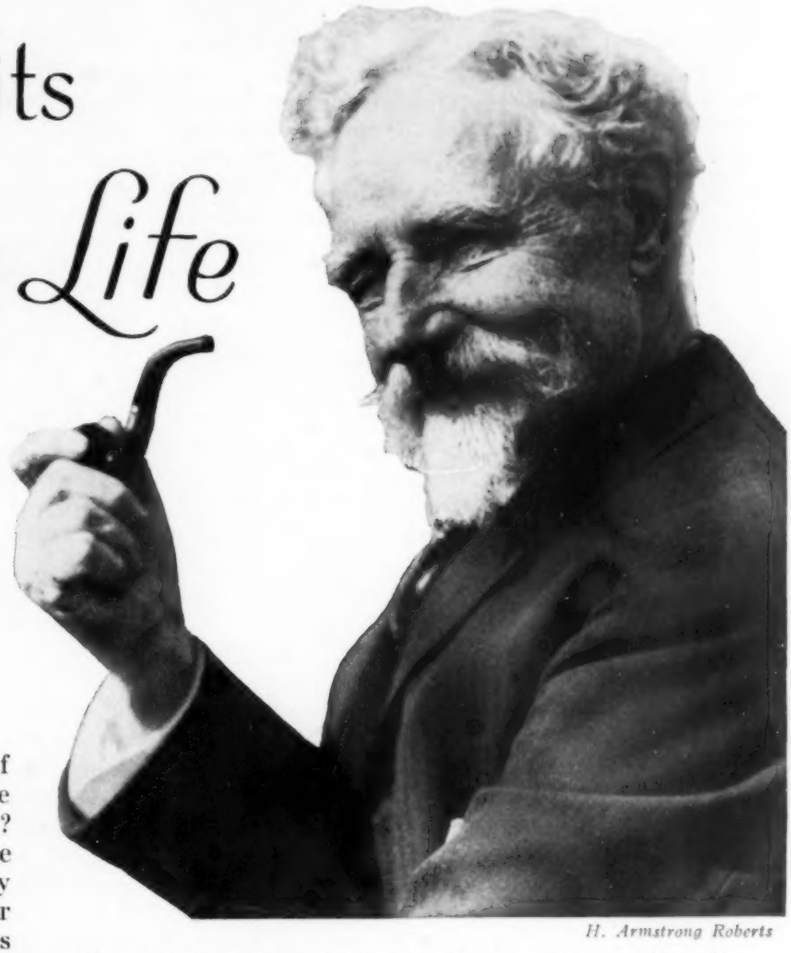
She likes to walk across the floor, her doll in her arms; back and forth, back and forth. My, how fast she can walk!

She likes to examine a surprise box—an old shoe horn, a caster, a square of bright gingham, a small mirror ("Mother is right, I am a pretty baby"), a discarded stamp box, two pink shells, and, oh, so many interesting things! For a precious half hour mother works undisturbed. Baby is working too.

She likes to lay her head down on "Keee-keee-keee," as she calls the big gray cat that scratches grownups. But baby knows kitty loves her. How can any one help loving a baby of twenty months!

Food Habits and Long Life

By Solomon Strouse



H. Armstrong Roberts

The wise physician does not take the pipe or the cigar away from a 70 year old man who has smoked for fifty years, even if the man does suffer from heart disease.

DOES food or does the habit of eating in any way influence the attainment of longevity? Do the things we eat influence the health of those of us who already are old? Many things are written or said on these subjects, but conclusions too frequently represent preconceived or personal ideas rather than the facts.

The experiences of physicians who deal with all kinds of people living all kinds of lives disturb the serenity of calm, judicial thought. Is individual life a matter of rules and regulations?

Because of or in Spite of Diet

One recalls old friends: A man thin, small, nervous, high strung, always worried, always suffering from "indigestion," eating a small variety of foods, and not much of those, has attained at 82 years a remarkable state of mental and nervous activity.

Another dear old soul, a German-born lady of no mean proportions, suffers from gallstone colic brought on by a large dish of spare ribs and sauerkraut. Her doctor, worried about her increasing jaundice, leaves special orders for rest and dietary restrictions, but she calmly gets out of bed, disobeys all diet injunctions and eats a goodly portion of sausage and potato salad. Her whole history has been one of violent opposition to any restrictions of food or liberty; she has eaten what and when she wanted. At 85, with increasing weakness of the heart and with gallstones, she still eats and acts as she pleases, and she enjoys her 85 years.

An old farmer—a nonagenarian, in fact—asserted that his long life was due to his constant abstemiousness. He was always a small eater, always careful as to what he ate; he never used tobacco or alcohol, hence he grew old. A well known English peer, who died at the age of 89, ate what and when he wanted, smoked steadily and did not refuse the cup that cheers.

Lifetime on "Ideal" Diet Impossible

It might be interesting to start at infancy and feed some persons on an "ideal" diet. Yet laudable as such an enterprise would be, it is obviously impossible in the human being. Animal experimentation has made great progress in the study of nutrition, and remarkable contributions to the science of nutrition have been made; but no experiments have as yet succeeded in a satisfactory demonstration of any definite efficiency of diet control in prolonging human life. Life is not entirely a matter of dental caries or of vitamin A.

Perhaps scientific efforts at diet control, based on animal experiment, are overshooting the mark. Are we interpreting the life of a caged

white rat rather too seriously for the comfort of a free white man? Of course, I am not arguing against the value of all this work; it is too important to neglect, too fruitful of possibilities even to criticize. Yet man is such a different animal, and life is such a varied experimenter that one must be most cautious about drawing wholesale conclusions from laboratory data on length of life of the experimental animal as affected by dietary changes.

Life Span Is Increasing

There is statistical evidence that the span of man's life is increasing, but we cannot as yet decide what factor or factors in the complexities of civilization may be responsible. Raymond Pearl believes that the modern trend in mortality is an expression of an inherited biologic tendency and that environmental factors, such as improvement in food, sanitation and public health care, are of secondary importance. Millions of dollars and untold acreage are now being invested in golf clubs; Sunday baseball takes many more thousands out in the open; automobiles free the masses from the constant restraint of indoors. Who, as yet, has been able to determine the health factor in all these things? The truth of the matter probably lies in the social-economic status of the times; we work harder and more intensively, yet we also earn more and spend more for good food, good air, healthy exercise, to form a total of improved conditions.

The mortality trend of most diseases seems to be down hill. Can one implicate food or food habits in this declining mortality? Typhoid fever is a rarity, the acute infectious diseases gradually are becoming controlled, tuberculosis seems to be yielding to the pressure of concerted preventive efforts. Diseases of the heart, blood vessels and kidneys, and diabetes, are perhaps not in the general decline. They illustrate the difficulties encountered when we attempt to evaluate the food factor in modern life. Metchnikoff was convinced that putrefactive germs harbored in the large intestine shortened life, and treatment by the Bulgarian bacilli was given a long trial. Yet in the end it was found that the Bulgarian bacillus itself was inactive. This long time experiment in human longevity was a distinct failure as an experiment. Again it illustrates the dangers and the difficulties involved in attempting to draw sweeping conclusions about anything concerned in longevity.

Food and food habits represent environmental conditions. Length of life is a biologic phenomenon influenced by many factors of which food is merely a single item. It is not to be inferred that I believe that undernutrition or overnutrition, that violent disobedience of the rules of sane living, are to be recommended.

I have been unable to find any research on the effect of food on length of human life comparable to Pearl's biologic and statistical studies. Even McCollum's investigations on animals, valuable as they are, cannot be immediately carried into the field of human life. When a writer like Leonard Williams categorically accuses poor cookery as the sole cause of senile decay, one may smilingly recall that Williams is a raw-food eater and remember man's tendency to consider his own food fad as a final solution of all food problems.

The shelves of the libraries offer many statements of historic interest but these are certainly not founded on data accumulated by the scientifically controlled method. Protein in excess, it is asserted, causes senile decay, but what is protein in excess? To avoid dying young, says one doctor, eat five meals a day, and eat no starch mushes; but another says you must not eat so often. Here are merely broad conclusions based on unsound reasoning from data unscientifically gathered and weighed.

The life insurance actuarial tables offer interesting facts on longevity. Obese adults are rated up in proportion to the amount of fat they enjoy; obese persons die at a younger age than persons of normal weight. However, except when underweight is associated with other signs of disease, it is not a cause for high insurance ratings in adults. It can probably be stated then that obese persons have less chance of living long than have thin ones. But does it necessarily follow that obesity connotes evils of eating? Or that early death is a result of the obesity? I do not think that either conclusion is completely justified.

Overeating and Overweight

The relation of obesity to overeating is an interesting problem, not yet altogether solved. The laying on of fat must result from a disproportion between caloric intake and caloric expenditure; a given individual puts more fuel in his furnace than he burns up. That does not necessarily imply overeating in the sense of absolute calories, nor does it mean that every one with the same weight, eating the same food, is going to be fat. It may well mean, as I think it often does, that there is something specific in that individual which slows up his metabolism so that his 1,800 calories are not completely oxidized. His neighbor on 2,400 calories does not gain weight; surely not all fat persons are heavy eaters as compared to the standards of the day; yet they steadily increase in weight.

There are fat families as there are diabetic families. There may be one fat hypophyseal child in an otherwise normal family of children, just as there may be one with congenital heart disease. All of this means that obesity is frequently the expression of an hereditary ten-

dency rather than evidence of an absolute overindulgence in food. More is eaten than one's metabolic engine can oxidize.

Granted that the obese die young, it may be that early death is a parallel rather than a sequential phenomenon to the obesity. I do not find it difficult to believe that the same inheritance that bestows a slow metabolism may bestow the tendency to early death. This all may sound like quibbling, and the reasoning cannot be followed to a conclusion, but actually it is important.

The earlier death of obese individuals is one of the few possible indictments of food or food habits in connection with length of life; it seems possible under the light of searching inquiry that food habits can be accused merely of being accessories after the fact. Both the obesity and the early death instead of being related as cause and effect may be expressions of an hereditary tendency. Careful reduction of food intake does prevent obesity, but that it definitely increases the span of life in the group of potentially obese is not proved.

Obesity and Diabetes

There are many who believe that obese persons attain their obesity through an acquired weakness for the good things of life and that therefore obesity can be considered an expression of the effect of food on length of life. This may be true, and when one analyzes the relationship between obesity and diabetes, one finds some good arguments in favor of this view. Diabetes is much more apt to develop in those who are above the average weight for their height and age than in the underweight or normal, and the death toll from diabetes is high. Joslin is of the opinion that obesity and diabetes are more likely to result from general overindulgence in food than from excesses of carbohydrate alone.

Overindulgence immediately brings up the general question of total quantity of food. Overindulgence of almost anything in life to the point of excess brings in its train evil effects on the body. The word "excess," however, is a term of comparative values. What is excessive exercise for one man is normal for a more active person.

Nature has a peculiar way of protecting her children, so that they manage to eat about what they need to live on.

Many persons believe that we moderns are tuned up to a scale of excesses, that we do everything, including our eating, on too high a plane. Yet that cry is heard in every generation. Serious philosophical discussions a century ago on topics of the day sound curiously like the admonitions of the 60 year olds of the present day. Certainly we find it difficult to establish laws of absolute standards and to say that to go above such standards is to commit an excess.

Most sensible doctors who play a comparatively poor game of golf will say that the eighteen holes they find time to play once or twice a week is an adequate dose of exercise, and they would be correct. Bobby Jones would say that such an amount is mere warming up, and that thirty-six holes a day is the correct amount of exercise. He too is correct. In considering every activity of life, the general principle of the harm of excess is acceptable; the rub comes in trying to define limitations of the term.

Few Overeat to Point of Harm

Despite much that I read of the evils of the modern way of eating and living, I find in actual practice comparatively few examples of excessive food indulgence to the point of harm. Men overeat, women overeat, but the vogue of the thin and superthin figure is powerful; and thinness is not compatible with overeating. It certainly is not difficult to conceive of the dangers to the organs that might arise from excessive

demands on their vital capacity. Probably all doctors have seen death result directly or indirectly from overeating. Yet it seems to me that these deaths actually are few and far between. The American man rarely presents pathologic specimens due to excessive food; the American woman is quickly learning.

It might be profitable, if it were possible, so to standardize life as to outline an ideal diet for the prolongation of life. But on what basis could one work? No one can prove that a diet of 2,400 calories or of 2,600 calories is ideal for all persons. No one can estimate with any degree of accuracy what the needs of any individual would be except by individual study. Statistics are available to show what an average diet does contain, but statistical evidence being average evidence has wide possibilities above or below the average; and really in life there is no such thing as an average man. To my way of thinking, a normal diet may vary in many ways from an average diet, and yet in no way would the life of the individual be affected.

Actual food consumption, by the individual, is dependent on many factors not always considered in figuring an average diet. Geographic location and the source of the food supply are fundamental controlling elements; habits of ancestors play an important rôle; occupation is vital. A normal diet of an occidental race transferred to an oriental habitat would be the result of many mixed and at times conflicting influences. Russian-Jewish immigrants in America still carry some Russian dietary habits, which are quite at variance with the habits of their next-door neighbors of Italian extraction. Rye bread and spaghetti are not found in the same household. An absolute standard cannot be fixed. The individual must find out for himself what is an excess and should avoid it.

The Eating of Meat

Protein has of late been a popular subject for discussion. I have seen protein removed from the diet in fever, arthritis, flatfoot, hypertension, nephritis, nephrosis and almost every disease in the textbook. Yet I have seen little, if any, conclusive evidence of the harmfulness of protein in the amounts used by most Americans. The wide variations noted in the evidence on hand must indicate wide possibilities of use. I am totally unconvinced that any one has been made prematurely old by meat.

The main control of the fat-sugar ratio lies in things beyond the control of the individual. Here extraneous factors such as geographic location and source of food supply play the most important rôle. When an abundant supply of fat and a scant supply of carbohydrate are available, the fat-carbohydrate ratio is high; the reverse is true in other localities. In certain geographic locations fat has a protective value against external weather conditions and is consumed in large amounts for this protection.

As a matter of fact, in regard to total calories and to the amount of protein, fat and carbohydrate, Nature has a peculiar way of protecting her children, so that they manage to eat about what they need to live on. I once analyzed the food served during the lunch hour to 350 patrons of a good but comparatively cheap lunch room in Chicago and found that an almost "ideal" proportion of protein, fat and carbohydrate was being eaten. There is a large factor of safety, permitting indulgence in violent exercise which threatens the reserve capacity of the heart but which likewise gives early warnings of excessive indulgence. I see every reason why this same large factor of safety is active in the control of the food supply of the individual. Occasional overindulgences might pass unnoticed, and frequent lapses would give rise to symptoms indicating trouble, so that chronic overfeeding is an unlikely occurrence.

Is Undereating More Serious than Overeating?

It is possible to conceive of undernutrition causing more trouble than overeating. Persons who are underweight, except in youth, are not reckoned as poor risks in life insurance statistics. Underfeeding, however, includes all conditions associated with the so-called deficiency diseases. Here the problem becomes more theoretic. Many children and few adults are seen with deficiency diseases. What happens to the children with these diseases? A large percentage yield almost miraculously to proper dietary treatment. Are they harmed for future life or do they become perfectly normal once the deficiency is relieved? This question is hard to answer.

Life expectancy at the age of 10 has advanced from 49.5 years in the eighteenth century to 53.02 in 1910, but at 42 to 70 it is practically the same. Whether permanent harm results or whether the individual, like the adolescent girl with a simple goiter, lives in complete health after repair of the damage, must remain an open question.

So far, it can be seen that I hold no brief against food and that I believe it probably has little, if anything, to do with length of life. While occasional serious general infections can be traced to the teeth, just as occasional general infections can be caused by skin infections, such serious infections are not the common result of bad teeth any more than they are the result of bad skin hygiene.

A survey of old persons shows, of course, that most of them are toothless, but many are seen with their mouths in terrible condition. I know several old men and women living in good health, totally oblivious of the fact that they are harboring pus pockets around the apexes of

their teeth. In fact sometimes less harm results from leaving these infections alone than from disturbing them. This all may sound like heretic doctrine uttered during a wild wave of enthusiasm for removing all foci of infection, but it seems rather important to emphasize how little substantial evidence exists in favor of length of life being affected by dental caries.

Today heart diseases, high blood pressure and kidney diseases are coming to the foreground as causes of death. Can food in any way be implicated in any of these processes? Rheumatic fever and syphilis, the two great causative agents in heart disease, need no assistance from the kitchen to make them dreaded. What is the cause of the symptoms usually associated with high blood pressure, more or less blood vessel disease, less or more kidney disease? I believe it fair to state that we do not know any cause or causes for the onset of this combination. True, many causes have been assigned, but none have been proved.

We hear that hard work or too little exercise causes hardening of the arteries, but we find the disease as prevalent in athletes as in sedentary workers. Heavy meat eaters are accused, and protein is categorically restricted for any one with a slight or temporary increase in blood pressure. Yet I need only refer to the scientific magazines to show how little foundation in theory or fact there is for this assumption. Excepting gluttons who overeat everything or anything, few if any cases of hardening of the arteries or of high blood pressure have been proved to be associated with dietary errors. I am not at all convinced that experiments on herbivorous animals tending to show a damaging effect of protein on the kidney have any parallel application to human disease.

There are fat families.

Heredity Strongest Factor in Longevity

Some years ago, Prof. Irving Fisher asked a number of prominent medical men to discuss the preventability of a group of ninety diseases. Forsyth then tabulated the results and found that if the expectation of life were fully realized on the basis of ideal preventability, there would be a total increase in expectancy of 12 years 245 days. Pearl, on the other hand, has shown that an increase in expectancy of twenty years is noted when only one generation of parents has attained the age of 80 years.

This contrast between the thirteen year increase, if all possible preventable deaths are realized, and the twenty year increase from being born of parents who attained old age is of great importance. In the case of preventable deaths we are dealing almost entirely with environmental factors, among which food plays a more or less important rôle; on the other side a straight hereditary influence is at work. The figures show that the latter offsets the total of all possible environmental factors.

Aged Have Learned about Own Bodies

A man who for seventy years has managed to remain in good health may be expected at that age to have a fairly right idea of what is or is not good for him. Likewise it might reasonably be assumed that theoretic dietary errors which have resulted in no harm have for that person little practical importance. Men and women grow old despite bad feeding and they quickly adjust themselves to an environment of satisfactory food and even grow fat.

We have a perfect right to expect that the bodies of old persons should not be as sound as the bodies of the young. A normal body for a man of 80 years cannot be the same as a normal body of a man of 18.

Years of indiscretions without demonstrable organic damages are not self-condemnatory. The wise physician does not take the imported cigar or the toddy away from a 70 year old man who has had the habit for fifty years, even if that man suffers from heart disease. If he can prove by careful testing that they definitely cause harm he is justified in such a radical disturbance of the serenity of senescence. But to disturb habits on a basis of theory or tradition is a cruel imposition of a pseudo-scientific attitude on a defenseless person, and usually such an attitude is not justified by results.

Our Photographic Machines

By
Aaron Brav

Hoover

Coolidge

Illustrations by
George R. McVicker

THE human eye was the first photographic machine from the workshop of nature. It was carefully designed to serve all purposes. All newly invented photographic mechanisms are mechanical devices patterned after the human eye. No photographic machine has as yet been invented that will compare in efficiency with this natural human camera in performing such complicated service as does the human photographic organ. It photographs with accuracy both stationary and moving objects and must be considered the first moving picture apparatus.

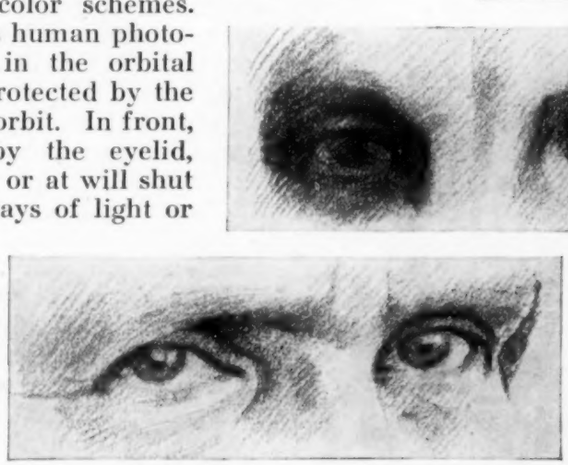
The human eye is a self-regulating photographic instrument superior to all other machines because it automatically adapts itself to various distances, regulates and controls the admission of the quantity of light rays, and is capable of adapting itself to different intensities of light. It is also capable of photographing all combinations of color schemes. Nature placed this human photographic machine in the orbital cavity, which is protected by the bony walls of the orbit. In front, it is protected by the eyelid, which can reflexly or at will shut out all injurious rays of light or any harmful substances.

Structurally speaking, this machine consists of a globelike body, the external wall of which is the scleral, white, thick, fibrous coat. To make the interior absolutely dark, this fibrous coat is lined with a heavy, vascular, black, pigmentary coat. The vascular arrangement has as its purpose the supplying of nourishment, while the heavy pigmentation serves completely to darken the interior of the camera.

The innermost lining of this camera is the retina, which is a part of the brain. It is a highly specialized nerve structure having the same function as the photographic film or sensitive plate in which the image is elaborated and developed. It is superior to any modern sensitive plate, because it is a constant film that requires no change and is capable of receiving and developing images continuously, as long as it remains intact and is free from disease.

Prince of Wales

Henry Ford

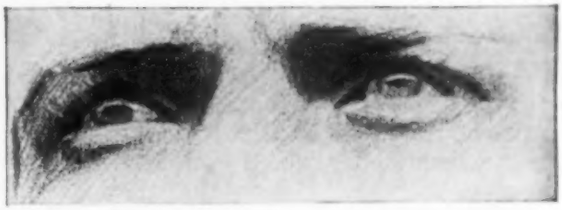


Mme. Curie

Charles Chaplin

Bisecting this human machine is an automatic diaphragm, the iris, with a centrally placed aperture, the pupil, which automatically controls the cone of light that enters the eye and at the same time divides the eyeball into two chambers. The larger chamber contains the vitreous body, the function of which is merely to keep the proper contour of the globe; the smaller chamber contains the aque-

Twelve Famous Human Cameras

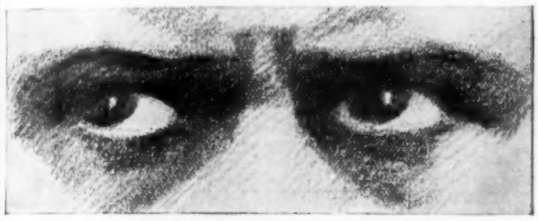


Lindbergh

ous liquid. This chamber is enclosed in front by the cornea, which acts as a window pane to prevent foreign bodies from entering the chamber and to save the eye from possible infections. This window pane is absolutely transparent, so as to permit rays of light to enter the eyeball through the pupil opening.

Edison

Jane Addams



Mussolini

To keep this window moist and clean, Nature has provided a cleansing fluid material; this is secreted by the lacrimal glands in the form of tears, an automatic lubricating agent that prevents corneal desiccation. This fluid, after it has accomplished its lubricating function in the eye, is carried off by a drainage, or exhaust, pipe called the lacrimal duct into the nasal duct, where it serves to lubricate the nasal passages.

No self-lubricating and cleansing photographic machine has as yet been developed by human ingenuity.

The principal single part of a photographic machine is the lens. No image or picture can be produced without a lens. The function of a lens is merely to collect rays of light emanating from any object and to bring them to a focus on the sensitive plate or film where the impression is made and an image produced. A camera performs its work only at a definite point, depending on the focal strength of its lens. It follows that a photographic machine is adjusted to work only at a certain definite distance.

The human eye is also provided with a lens, which is absolutely transparent. This lens is placed immediately behind the pupil, so as to catch the rays of light as soon as they pass the pupillary opening. It is suspended in a ligament, which is controlled by the ciliary muscles. The important work of this pair of muscles is to regulate or change the radius of curvature of the lens, so as to enable it to form images at different distances. If the curve of the lens is large, its focal strength is greater. Thus, when a lens of greater focal strength is needed for near work, these muscles automatically so change the curvature of the lens as to give it a proper focal strength.

The importance of the lens in photography can be appreciated from the fact that rays of light traveling in any direction as long as they are parallel rays will not produce an image. In order to form a picture, it is essential that these rays converge and meet each other at a given point.

Since the change of the curvature of the lens is accomplished by muscular work, it follows that these muscles may sometimes be overworked. Such overwork is usually attended by a series of annoying symptoms. The symptoms may manifest themselves in the eye proper or indirectly and reflexly in other parts of the body. These discomforts make up the symptoms of eyestrain that ophthalmologists try to relieve.

Ethel Barrymore

Pershing

Far-sighted, near-sighted and astigmatic eyes, in which the lens is deficient in focal strength,

usually give rise to these symptoms of overwork and may be relieved by proper optical aid. These symptoms of overwork can be relieved by supplying an extra or additional lens in the form of spectacles. When additional strength in the lens is needed, a plus lens is placed in front of the eye. If a weaker lens is required, a minus lens is put in front of the eye and so deduction is made from the original strength of the crystalline lens.

How the Machine Works

How does this human photographic machine work?

Rays of light emanating from objects in the outer world pass through the cornea and pupillary opening and in passing through the lens are so converged as to come to a focus at a definite point on the retinal film. At the point at which these rays meet, a definite image is produced. This is developed or elaborated by the photochemical substance of the retina. The human camera thus differs from other photographic machines in that it also does its own developing. The photographic process is completed as soon as the converging point reaches the retina where the image is formed.

But the process of vision is as yet incomplete, for the problem of bringing the image to the attention of the brain center for the interpretation is still not solved. Again Nature shows wisdom, in providing an electric communicating wire in the form of the optic nerve, the function of which is to carry the image from the eye to the brain center in the occipital region, where psychic transformation takes place and where the photographic image is perceived and interpreted. When this wire is out of commission, the image cannot be transmitted. The patient is blind, although his eye is perfectly normal.

The visual apparatus, therefore, consists of the human camera that does the photographing, purely a physical process; of the optic nerve and tract that carries the image, a physiologic process; and the visual center in the brain that interprets the image produced on the retina, a psychologic process.

The eye is also provided with six external ocular muscles, so that it can move in various directions. No other photographic machine possesses this automatic function.

Since a human being is in possession of two eyes, each doing its own photographing simultaneously, producing actually two images, it is necessary that it be provided with a fusion mechanism to unite these two pictures into one definite concept (stereoscopic vision).

Every part of this photographic machine is connected by means of nerves (telegraph wires) with the brain, so that messages can be quickly transmitted whenever this automatism requires adjustment. Of the twelve cranial nerves, six go wholly or partially to the eye. So, this camera is fully prepared by nervous connections for quick action.

Eye Works Early and Late

The human photographic apparatus is the most overworked organ in the body. It begins its work as soon as we open our eyes in the morning and continues until we close them in sleep. During this working period, it constantly takes photographic images, so as to connect our inner self with the outside world.

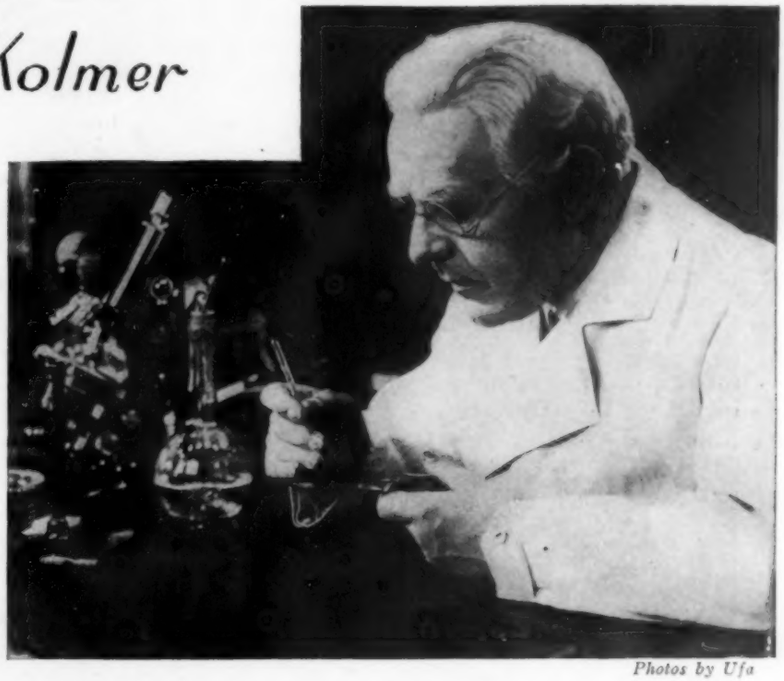
Nature has done her work well, and it is for us to learn the mechanism of the eye, to preserve it intact, and to prevent it from deterioration by overwork. That such a machine requires careful attention against overwork and physical deterioration is obvious. It behooves us, therefore, to follow hygienic regulations to preserve this photographic machine and to prevent visual deterioration.

Needless to say, any derangement of such complicated machinery can be readjusted only by a specially trained physician who knows how to detect and correct maladjustments.

A SOCIAL MENACE

IS DISCUSSED BY

John A. Kolmer



Photos by Ufa

From a microscopic examination of pus, the doctor finds that his young patient has syphilis.

SINCE syphilis is one of the venereal diseases there has been a natural reluctance to discuss in public its prevalence and sociologic importance. Because of the usual secrecy surrounding it no one can state exactly how many persons are infected, although it is believed that the incidence varies from one to two per hundred in our better classes to as high as fifty or more per hundred among those of loose moral behavior. It has been conservatively estimated that the general average is from six to ten out of every 100 persons, which means that there are ten million or more persons with this disease in the United States alone. The majority of them either do not know that they have it or believe themselves cured of it. Fortunately, however, the disease appears to be decreasing rather than increasing, thanks to world-wide campaigns of education as well as to greatly improved methods of diagnosis and treatment and measures of prevention.

While persons only rarely die of syphilis during its acute, or early, stages, it is recognized as a highly fatal disease in its later, or chronic, stages and easily takes first rank among the infectious diseases causing death. It has been estimated that approximately 100,000 persons die each year in this country as the direct or indirect result of the disease. Indeed it is impossible even to calculate the amount of suffering and economic loss produced by syphilis, because it has so far eluded sanitary control. It constitutes a constant menace not only to the licentious but to the clean living public as well.

The most disabling consequences of the disease usually appear after the victim is 35 years of age and its influence on industrial decline and personal and family life, as well as the ultimate costs to the state in human wreckage which must be salvaged or sustained at the expense of a large toll of community and social resources each year, leaves one literally unable to imagine the staggering total costs and disability traceable to this scourge.

Syphilis is not always a venereal disease. About ten out of every 100 cases are contracted in other ways; especially by kissing, using the eating and drinking utensils of infected persons or by contact in other ways

with the open lesions of the disease especially during its acute, or early, stages. The germ is easily killed outside the body but may live for hours under favorable conditions on towels, utensils and other articles.

One of the terrible things about this disease is the frequency with which persons, especially women, are infected without suspecting it. Another is the frequency with which it is transmitted to the children of syphilitic parents. It accounts not only for a high percentage of miscarriages and some sterile marriages but likewise for a high death rate among infants and a high incidence of sickly children sadly handicapped at the outset in the race of life. It has been estimated that an uncured syphilitic father infects about 25 per cent of his family, while a syphilitic mother is even more dangerous, since about 30 per cent of the family may become infected through her. While the incidence of congenital syphilis of children varies from less than 1 per cent to as much as 15 or 20 per cent, depending on social status, yet it has been estimated that in general terms from three to five out of every 100 children in the United States present demonstrable evidences of this dangerous disease.

Responsibility for this situation can be chiefly and squarely placed on the antemarital exposure of young men and points directly to education and religious training as the most fundamental forms of attack. If a man or a woman could alone bear the consequences of syphilis the situation would not be so bad, but the frequency with which innocent and unsuspecting persons are infected by those who do not know they have the disease or, knowing, believe themselves cured, adds greatly to its dissemination and to the high toll of mental and physical suffering and crippling that follow in its wake.

Ufa

The girl is being wheeled to the operating room. Venereal infection, when treatment is delayed, frequently leads to surgical operation.

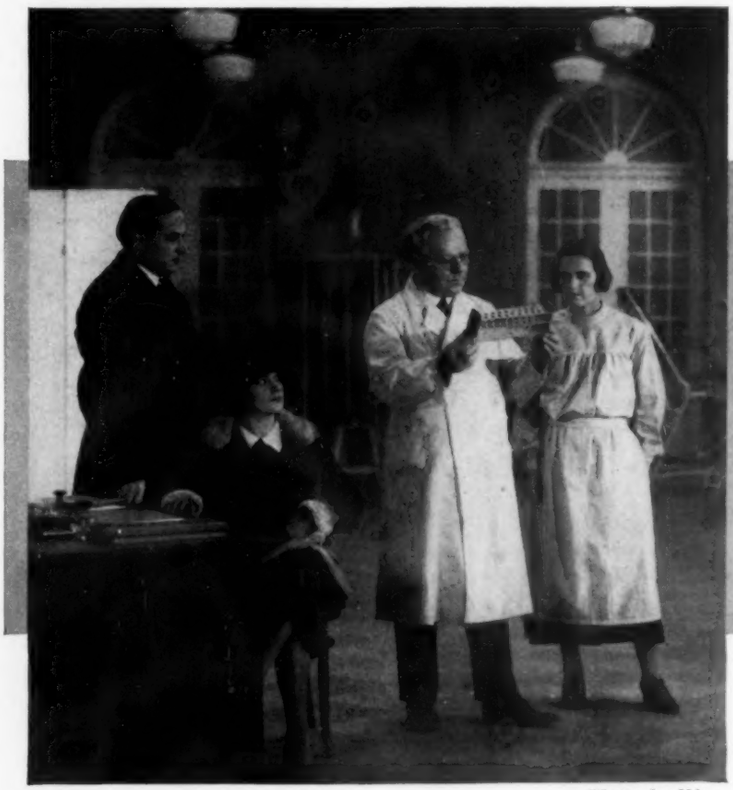
No physician should ever be a party to any agreement whereby the wife and children of a syphilitic man or the husband and children of a syphilitic woman are left to their fate without adequate examinations and the institution of proper treatment of those found to be infected, since with proper sympathy, skill and experience even the most difficult situations may be happily solved.

Syphilis usually begins with the development of a sore at the site of infection, but sometimes this is quite inconspicuous, especially in women, so that not a few never suspect that they have contracted the disease. In a few weeks this

Suspecting a venereal taint, the young man visits a reputable physician and immediately begins treatment.

primary stage is usually followed by eruptions on the skin and in the mouth and throat, but the rashes may be so light as to escape the serious attention of the victim.

This secondary stage is followed by a period of years during which the disease is concealed or latent within the body. The person may be in relatively good health during that time but the organisms are gradually producing damage in one or more of the internal organs. At this time it may be impossible to detect the disease by physical examinations and untold thousands of victims are deluded by this treacherous stage into a false sense of security, although by means of blood tests the majority of cases can be detected and treatment instituted sufficiently early to prevent or at least greatly delay the onset of the dreaded developments of the third, or tertiary, stage. Every organ and tissue of the body is vulnerable to the disease at this time so that this late, or tertiary, stage may attack almost any part of the body. The brain, spinal cord and heart are the parts that are most frequently involved. Hygienic and temperate living aimed toward keeping the body in good physical condition aid in prolonging the period of latency or the postponement of the onset of the final stage of the disease, but it can be definitely stated that few persons ever completely recover from it without the aid of prolonged and skilful treatment. Altogether too many victims are deluded into a false sense of security by the belief that exercise, diet, bathing and such measures alone will suffice for its cure. These are helpful but they do not enable the body to destroy all the



Photos by Ufa

The young man has transmitted his venereal infection to an innocent girl.

germs. One may recover from typhoid and scarlet fevers, measles, pneumonia and other infectious diseases through the body defenses alone, unaided by treatment, but this is not true of syphilis.

Fortunately for the afflicted, there is no other disease known to man in which medical science has made as much advance in treatment as in this disease. It has been found possible to transmit the disease to monkeys and rabbits, and this has opened up means for producing and trying new and powerful remedies. Thanks to animal experimentation it may be said that drugs are now available that are capable of curing the disease in its early stages in human beings and even in a proportion of chronic cases, while in the remainder of the cases these drugs usually destroy enough of the germs to hold the disease in check for the average span of life and in the meantime greatly reduce and even definitely remove the chances of the individual infecting others.

There is, however, no short cut to complete recovery. In the early stages adequate treatment covers at least a period of from two to three years, with an additional year or two of observation during which the patient must be free from all symptoms and yield repeatedly negative blood reactions. Thorough treatment of this kind, requiring as it does the skilful services of the physician and the cooperation of the patient, usually results in complete recovery and safety in contracting marriage. More and longer periods of treatment and observation are required in the chronic stages, but even in such cases medical science has met with great success. Intensive research work during the last twenty-five years has resulted in the discovery and perfection of newer methods of diagnosis and in the discovery of drugs capable of killing the germs without serious toxic or injurious effects to the patient.

Dreadful as syphilis is, because of its prevalence and high mortality when untreated, and because it may strike both the lowly and the great, it is by no means as hopeless as many believe. For in no other disease has medical science made as successful strides in the knowledge of diagnosis and treatment. Under proper conditions recovery is within the reach of many; aid amounting almost to recovery is possible for some, while relief may be given to others who but a few years ago would have been regarded as hopeless.

DIETING

It is easy to reduce;
All you have to do is diet.
It is very simple;
The most important thing is will power.
A little more mashed potatoes, George.
I've gained five pounds in one week,
Something must be done.
It's a person's own fault if he gets too stout.
Are you going to eat that other pork chop, George?
My friends say they don't know me any more;
I must do something.
Please pass the bread again, will you?
I'll start this very day.
Will power! I know I have that.
This is good pie, isn't it?
So rich; pour some cream on mine, dear.
It is delicious that way.
I have a fit every time I think of that five pounds;
I need more exercise and long walks.
It is easy to reduce;
All you have to do is diet.

—ALBERTA M. DREDLA.

ASTHMA and Other Allergic Conditions

By Milton B. Cohen

There are three types of asthma, and any type is most unpleasant to the victim.

SOME persons develop a rash if they eat strawberries. This is due not to anything ordinarily poisonous in strawberries but to a peculiarity in the body of the person who eats them.

The rash develops because the body cells are so changed that the strawberries act like poisons when in contact with them. Such cells are known technically as sensitized, and the person is said to be in the sensitized, or allergic, state. It should be understood that such persons may be normal and robust in every particular except the one just cited. The condition is a specific one; in the instance mentioned, it is only the strawberry that causes the rash.

A condition closely resembling this can be produced in animals. It is known as anaphylaxis, and an understanding of it throws light on hay-fever, asthma and other so-called allergic diseases.

Related Condition in Animals

If a guinea-pig is given a hypodermic injection of egg white, no harm is done the animal. But if a second injection is given some fourteen days later, it proves fatal. What has apparently happened during the fourteen days is that the guinea-pig has developed a sensitivity to egg white.

Postmortem examination of the guinea-pig reveals the fact that death was caused by an overdistension of the lungs during which the air was trapped in the air sacs of the lungs by spasmodic contractions of certain muscles. The guinea-pig is said to have died from anaphylactic shock.

The similarity between the symptoms shown by the guinea-pig prior to death from anaphylactic shock and the symptoms exhibited by persons suffering from asthma was first pointed out in 1910. It is now generally agreed that asthma, hay-fever and a number of other allergic diseases are what might be called anaphylactic phenomena in the human being.

How Symptoms Are Produced

One of the most striking facts about the history of persons suffering from asthma, hay-fever and other allergic diseases is the occurrence of allergic manifestations in other members of the family. Most observers report such a history in more than one half of the cases. That the tendency to allergy is inherited is not definitely established. It may be that the ease with which a patient can acquire sensitiveness, or the allergic state, is an inherited quality.

In my own series of cases, 58 per cent gave a family history of allergy. The actual percentage, however, may have been higher, since most persons recall only cases of hay-fever and asthma and almost no one mentions eczema, hives or other allergic conditions in members of his family.

A person may be in the allergic state for many years before symptoms begin. They are produced only when he comes into contact with a dose of the specific substance to which he is sensitive. The severity of the symptoms depends on the size of the dose, the degree of absorption and the degree of sensitivity of the patient. The particular symptoms depend on

the organs of the body that are sensitive. If it is the skin, there will be eczema or some other skin disease; if it is the lung, there will be asthma, spasmodic croup or spasmodic bronchitis; if it is the nasal mucous membrane, it will be hay-fever; if it is in the digestive organs, digestive disturbances will result.

Many persons possess a tolerance for a certain amount of the specific substance that induces allergy. Such persons will not show any symptoms for a small dose but will be brought into what Dr. W. T. Vaughan has called the "balanced allergic state." Any small additional dose may then bring on symptoms. In certain types of cases the patient in a balanced allergic state will develop symptoms from irritations of a general character.

Specific substances that can produce allergy are called, technically, allergens. They may enter the body in four ways: through the mouth or nose during breathing, through the digestive tract, through the skin by absorption, and in the case of bacteria, by infection. There is a fifth and more uncommon way. Occasionally an injection of some sort, as for example, diphtheria antitoxin, will introduce an allergen.

Under modern conditions of life we come in contact daily with innumerable substances, many of which may be allergens. The air we breathe always contains floating particles of many kinds. Pollen, dust from leaves, particles from the dandruff and hair of animals, dusts produced in many industrial processes and other particles may be in the air.

Any food may be an allergen for a particular person. It is worth noting that the most common foods are frequent offenders. Bacteria are also sometimes thought to be allergens.

In addition, there are many irritations that produce symptoms when a person is in the balanced allergic state. These are so obvious that often the mistake is made of attributing the symptoms directly to them. Among these irritations are weather changes, exposure to heat or cold and so-called nervous influences.

How Cases Are Diagnosed

The diagnosis of any disease may be divided into two parts, the history and the examination. The history is of extreme importance in allergic patients. The age of the patient, the age at which symptoms began, the time of the year when they began, the frequency and severity of attacks, the relation of these attacks to the seasons of the year, and the type of the attacks must all be ascertained. The home environment, the presence of animals, stables or special factories in the neighborhood, the type of bedding and furniture used, are important. The history of attacks following some specific exposure and the existence of an allergic family history are of great importance.

A carefully obtained history will usually enable the physician to be certain of the existence in the patient of the allergic state and may afford some clues to the exciting causes.

The basis of all examinations is the investigation of every organ of the body, supplemented by studies of the blood and urine. This will disclose any intrinsic causes for the symptoms, such as nasal sinus disease, abscessed teeth, diseased tonsils, infections elsewhere in the body, or chronic heart or lung disease, and may disclose other changes characteristic of allergy in the blood.

There remain then the special examinations to get clues as to the nature of the specific exciting allergens. The basis of this examination is the skin test. Many years ago it was noted that if pollen was rubbed into the scarified skin of a hay-fever sufferer, an urticarial wheal, or hive, would develop at the site of the scratch and that this reaction could be produced only by the particular pollen to which the sufferer was sensitive. Later, it was determined that other substances to which the patients were sensitive would give similar reactions, and this method is now in general use.

Close communion with a ragweed has spoiled more than one country vacation.

After Clues Are Obtained

When these clues have been obtained it is necessary to plan experiments in which contact with the specific allergen suspected is avoided. If the symptoms are brought under control, it is then necessary to expose the patient to the specific allergen and to reproduce the symptoms, and this must be done with each allergen that gives a positive skin test before it can be included in the list of causes or excluded from

it. In this part of the study the cooperation of the patient with the physician is vital, as the avoidance of allergens can be accomplished only by the patient.

Utilizing the knowledge outlined in the preceding paragraphs, certain of the allergic diseases, particularly asthma, will be discussed.

Asthma

Asthma is the name given to the symptoms that occur when the lung is the organ chiefly involved in allergic shock. It is characterized by attacks of difficult breathing, in which the patient is forced to sit up and to make unusual efforts to force the air out of the chest. The attacks often begin suddenly during the night. The person retires in the best of health and is awakened suddenly by an inability to breathe. The breathing is noisy and of a whistling character and can often be heard at a considerable distance. In the beginning there is little coughing and that which is present is dry and unproductive.

As the attack progresses, the cough becomes more noticeable and finally a plug of thick mucus is coughed up. Following this expectoration, the difficulty begins to subside, and within a few hours the person may again be normal and show no results of his harrowing experience of the night.

In others, the attack comes on more gradually, beginning with symptoms of a cold in the head, which progresses into the lung. Many of these cases are mistaken for attacks of bronchitis, particularly in children, in whom the attacks may be so mild for a number of years as to mask completely the asthmatic nature of the trouble. However, usually in these cases one notices wheezing breath sounds, which are seldom present in pure bronchitis and, when found, usually mean asthma.

Some persons have asthma only at certain seasons of the year; as, for example, those who have it as a complication of hay-fever or those who have pollen asthma without hay-fever. Others may have attacks at any season of the year. Those who have seasonal symptoms are said to have seasonal asthma and those who have symptoms the year round are said to have perennial asthma. The perennial asthmatic may be worse at some season, such as the hay-fever season, which means that he has perennial asthma with a seasonal exacerbation.

As has been indicated, before one can have asthma it is necessary to have the allergic state and to have made some contact with the specific exciting cause to which one is sensitive in quantities sufficient to produce either immediate allergic shock or the balanced allergic state.

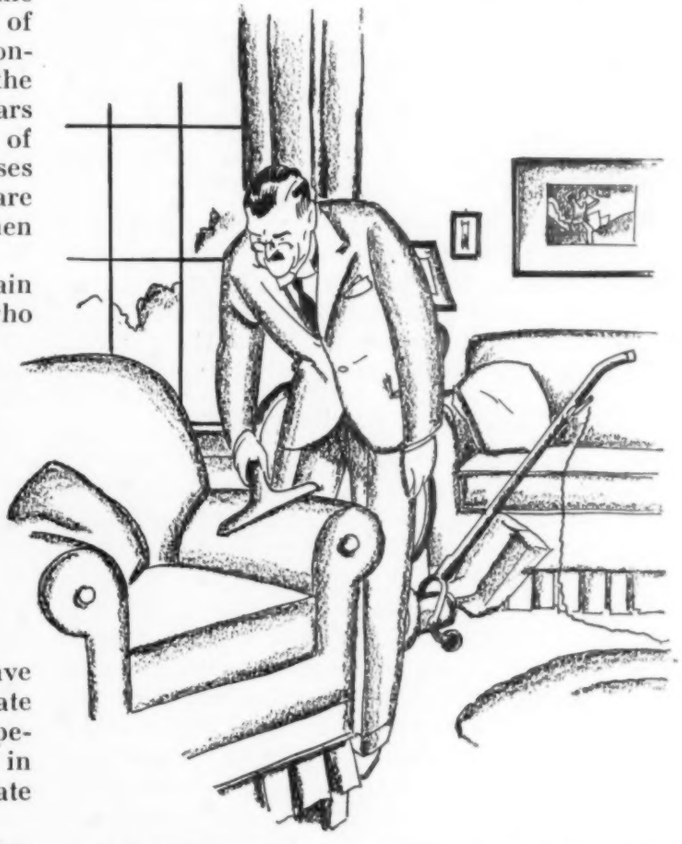
It is the duty of the physician to determine all of the specific exciting causes that may enter the body from the outside, which are therefore spoken of as extrinsic causes, and all of the abnormal conditions in the body that may disturb the allergic balance, which are spoken of as intrinsic causes.

Asthma may therefore be classified into three groups, extrinsic, intrinsic and combined. The pure extrinsic cases are those in which there are no physical deformities and in which the exciting causes enter from the outside, being present either in the air or in some food. These cases are the least difficult to diagnose and treat. They give histories of freedom from attacks for various periods of time, often depending on changes of residence from one house to another or from one community to another.

Allergens Are Removed from Environment

A complete set of skin tests usually affords a number of clues to the causes. When these clues have been obtained, the life of the patient is rearranged so as to exclude the suspected substances from the environment; then the patient is observed to see the effect of their exclusion on the asthmatic attacks.

If no attacks have occurred for a period twice as long as the former longest period of freedom from attacks, the patient is brought into contact with the suspected materials, one at a time, to see if attacks can be reproduced. If an attack occurs it is necessary to avoid the reacting sub-



The doctor adapts the vacuum cleaner to his purpose.

stance indefinitely to remain asthma free. If, in spite of attempts to remove the suspected influences from the patient's environment, attacks continue, it is obvious either that the removal has not been complete or that other materials are present which are active allergens for the patient.

A check is made to determine the completeness of removal of the known allergens by an investigation of the household furnishings and the wearing apparel, as these are frequently sources of allergens.

To do this well, the physician must have a thorough knowledge of the materials used in the manufacture of both common and uncommon clothes and furniture. Goat hair, horse hair, feathers, silk, wool and cotton are present in almost every home in some form or another, and furs of all kinds may be present. In this connection it must be remembered that most of the furs are those of the more common fur bearing animals which have been altered by plucking and dyeing so as to resemble the more expensive and rarer kinds, under which names they are often sold.

Some of the furs commonly altered and sold under names of superior furs are:

Species, Altered	*Sold as*
Hare, dyed	Sable or fox
Hare, white	Fox
Rabbit, white	Ermine
Rabbit, white, dyed	Chinchilla
Rabbit, sheared and dyed	Sable, French seal, electric seal
Muskrat, dyed	Seal, electric seal, Hudson Bay seal
Muskrat, pulled and dyed	Mink, sable
Mink, dyed	Sable
Marmot	Mink, sable, skunk
Opossum	Beaver

To determine the presence of other and unknown allergens, samples of dust are collected from various parts of the house, extracts are made from them and skin tests are made with these extracts to obtain further clues. These dusts are collected as follows:

Collecting Samples of Dust

The cloth bag is removed from a vacuum cleaner and it is operated for a minute or two to free the working mechanism of any dust that may be present. A 16 pound paper sack, which can be obtained from any grocer, is tied on in place of the cloth bag, and the machine is operated direct or by means of various attachments, so as to collect a tablespoonful of dust from the mattress, pillows and coverings of the patient's bed. The sack is then removed, folded up and properly labeled, and another clean sack is tied on in its place. A sample is obtained in a similar way from the living room rug, from overstuffed living room furniture, from the bedroom rug, from the automobile and from various other sources that suggest themselves after a survey of the environment. Dust is often collected also from the working environment.

If any of these dusts give positive reactions in the patient, the source of the dust is eliminated from the environment, and a check is made once more as to the effect of this change on the symptoms. Sometimes this method fails also, and it is necessary either to move the patient to a specially prepared room in a hospital, where the air is so clean of all particles that it is impossible to receive any harmful substances through the air; or by means of specialized filters to produce similar conditions at home.

Environment Must Be Kept Free of Allergens

The patient is kept in this special environment until it has been determined with certainty whether or not inhalant factors are responsible for attacks. During all this time, of course, the diet has been arranged in accordance with the clues derived from the history and the skin tests.

When the conditions for the control of the attacks have been determined, it is imperative to maintain these conditions indefinitely, as attempts to raise the tolerance to specific allergens, while they may be temporarily successful, are never lasting, and are reserved for those cases in which it is impossible or completely impractical to free the environment of the offending materials.

The pure intrinsic asthmatics are those who have disease somewhere in the body that is sufficient to produce spasm of the bronchioles or to obstruct them mechanically, without the assistance of the balanced allergic state. These are rare in young persons, but it has been shown that certain germs that may be responsible for infections in teeth, tonsils and nasal sinuses produce poisons that are capable of causing these bronchiolar muscle spasms and thus of producing asthmatic attacks.

Some elderly persons have a condition of the lung in which the normal elasticity is lost. It is called emphysema. These persons suffer, in addition, from chronic bronchitis, which, when of long standing, weakens the walls of the small bronchi so that they become dilated and a good soil for the growth of bacteria. The bronchitis with its accompanying outpouring of pus and mucus causes mechanical obstruction of the air passages and attacks of shortness of breath, simulating asthma.

The treatment of pure intrinsic asthma consists in surgical eradication of all areas of infection that can be so removed, and in attempts to raise the body health by hygienic measures, such as regularity in living, attention to the excretory functions, simple, nutritious diet, plenty of fresh air and exercise, and occasion-

ally the administration of drugs and vaccines, when indicated, to assist temporarily in the raising of the body's tolerance.

The combined form of asthma is relatively common. It consists, as the name implies, of a combination of the extrinsic and intrinsic types, in which usually the extrinsic causes are the more significant, as in most instances the intrinsic causes are insufficient to produce symptoms until the body has been placed in the balanced allergic state by contact with doses of the specific exciting causes. Treatment in these cases consists in a combination of the methods for the pure extrinsic and intrinsic types.

To Relieve Asthma Attacks

From the preceding discussion of the types of asthma, it can be seen that in general the treatment of this disease consists in its prevention. However, the attacks, particularly when severe, cause great suffering, and attempts should be made to relieve them as rapidly as possible. The following points may be helpful:

1. Allow the patient to assume the position that seems the most comfortable to him, no matter how uncomfortable it may appear to the onlookers.
2. Induce vomiting by means of ipecac or some other simple emetic remedy, or,
3. Inhale the fumes of some one of the asthma cigarets or powders which contain stramonium leaves and which can be purchased in any drug store.
4. If the attack is severe these remedies will be of little avail, and it will be necessary to call a physician, who will be able to produce prompt relief by means of hypodermic injections.

In addition to asthma and hay-fever, certain other manifestations of allergy are sufficiently common to merit discussion. They are produced when organs other than those of the respiratory tract are the seat of the allergic shock reaction.

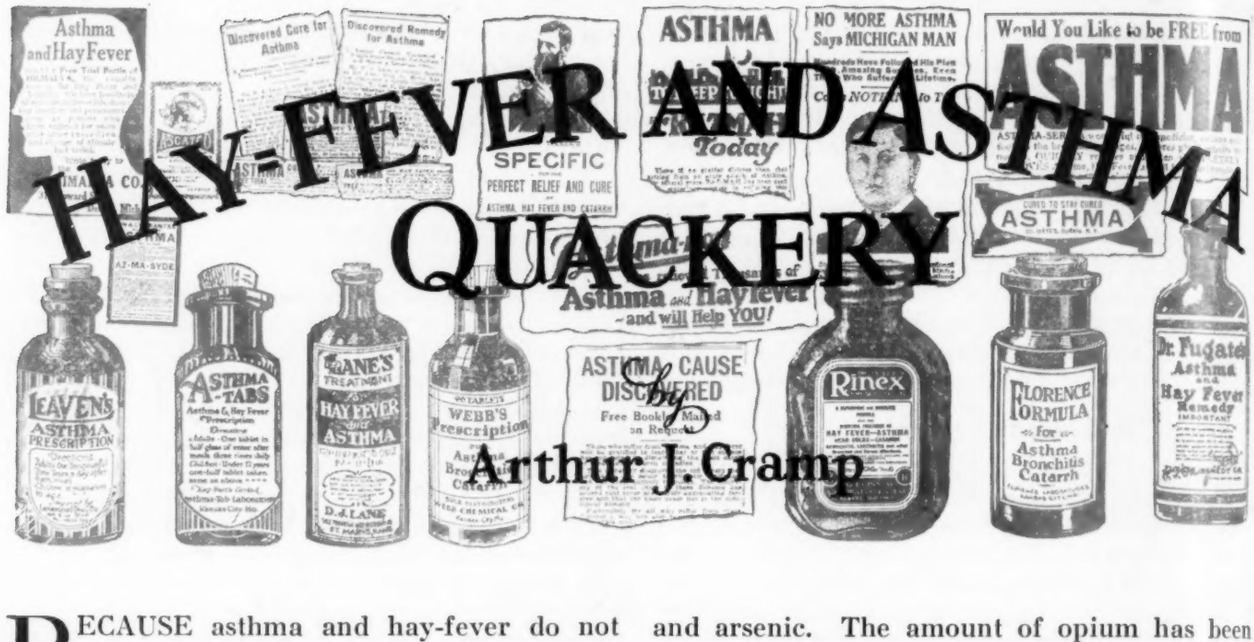
Other Allergic Conditions

The most common ones are eczema and urticaria. Some cases of mucous colitis, many of the gastro-intestinal upsets in children and some joint affections are allergic in nature. These conditions may exist alone, but more usually they are combined with some other form of allergy. From 20 to 40 per cent of asthmatics, according to different observers, give histories of eczema during infancy or childhood, and frequently hay-fever sufferers report attacks of hives at various seasons of the year. Also, many infants with eczema are troubled by gastro-intestinal upsets, and occasionally convulsions of an allergic nature are seen.

Foods are the allergens responsible most often for the symptoms, but other allergens sometimes are to blame. As in other forms of allergy, the history and the skin tests produce clues, which are followed out as has been described in detail. If this method fails to produce complete relief it is necessary to place the patient on a diet containing no more than two or three foods, preferably those seldom eaten, for a period of from seven to ten days, and to observe the effect. If the symptoms disappear, one new food is added every week so long as they do not recur, until a pleasant and adequate diet is worked out.

Complete study of all infants and children with allergy is imperative, as by this study allergens that may cause symptoms later in life may be discovered, and attempts may be made to avoid them before attacks are produced.

Ewing Galloway



HAY-FEVER AND ASTHMA QUACKERY

By Arthur J. Cramp

BECAUSE asthma and hay-fever do not immediately threaten life, many sufferers have the idea that it is not necessary to go to a physician and that the condition can be self-treated with something bought at the drug store. This may explain why there is such an enormous number of alleged remedies for hay-fever and asthma on the American market.

Analysis has shown that about nine out of every ten "patent medicines" sold for the alleged cure of asthma or hay-fever contain either potassium iodide or Fowler's solution (an arsenic mixture), or both. Iodides have been used for years by the medical profession in the treatment of certain forms of asthma, but self-dosing with iodides is by no means free from danger. The risk of taking arsenic would be obvious if the public were aware of the presence of the substance in the products taken. But as the National Food and Drugs Act does not require the declaration of the presence of arsenic, the purchaser of an asthma or hay-fever "patent medicine" is wholly in the dark as to the possible presence of this poisonous substance.

The present article gives in brief paragraph form the essential facts regarding some of the alleged remedies for asthma and hay-fever that have come to the attention of the Bureau of Investigation of the American Medical Association:

Ascatco.—Years ago this preparation was sold as an Austrian product by the Austrian Laboratory of New York City; it was not an Austrian product. It used to be given publicity by means of advertisements made to imitate cable news and telegraphic reports, both of which were fakes. The name of the company putting it out was later changed to Ascatco Laboratory. The preparation has in the past contained opium and arsenic. The amount of opium has been gradually diminished. The exploiters of Ascatco were given the opportunity some years ago to prove that their preparation was a cure for hay-fever and asthma, claims that the federal authorities declared were fraudulent. They did not take the opportunity offered.

Asthma-non.—This preparation, put out by the Bundt Laboratories of Detroit, is admittedly a mixture of iodides with certain vegetable drugs.

Asthma-Sera.—This preparation was put out by the R. M. B. Laboratories of Seattle, Wash. A "full treatment" of four bottles cost $10.50, yet the purchaser was told, after finishing the first half of the fourth bottle, that he should order two more bottles if any symptoms of asthma remained. When analyzed in the chemical laboratory of the American Medical Association, the stuff was found to be the usual mixture of iodides and a laxative.

Asthma-Tabs.—The Asthma-Tab Laboratories of Kansas City, Mo., exploited this piece of mail-order quackery. The product, when analyzed in the chemical laboratory of the American Medical Association, was found to be essentially potassium iodide and a salt of arsenic. After swindling the public out of $80,000 a year the outfit was declared a fraud by the government and debarred from the United States mails.

Az-Ma-Syde.—This product was put out by Arthur H. Doble, who did business under the trade name Asthma Remedy and Manufacturing Company of Cornelia, Ga. When analyzed by government chemists some years ago, Az-Ma-Syde was found to contain cocaine, alcohol, carbolic acid, thymol and wintergreen.

Carlin's Asthma Remedy.—This is a piece of mail-order quackery exploited from Wauwatosa and from Milwaukee, Wis. A specimen recently

tested for iodide showed this substance present in large amounts.

Florence Formula.—This was sold by the Florence Products Corporation of Kansas City, Mo. Behind the corporation was Florence H. Shearer, who was connected with George A. Breon in the exploitation of this piece of mail-order quackery. The Florence Formula was found on analysis to contain iodide and arsenic. In July, 1926, the federal authorities declared it a fraud and debarred it from the mails.

Force's Asthmanna.—This preparation was put out by S. B. Force of San Francisco at $7.50 for three bottles. The state chemists of North Dakota reported some years ago that it was merely an emulsion of linseed oil, sugar and potassium iodide.

Free Breath.—The O. W. Dean Company, Inc., previously known as the Benton Asthma Remedy Company, exploited from Benton Harbor, Mich., what it described as "the world's wonder treatment for asthma, bronchitis, hay-fever and catarrh of the mucous membranes." The name given to the wonder was Free Breath; when it was analyzed in the chemical laboratory of the American Medical Association, it was found to be a solution of potassium iodide and a salt of arsenic. It was sold with no warning as to its dangerous possibilities and was described as "absolutely harmless."

Frontier Asthma Remedy.—This preparation, put out by the Frontier Asthma Company of Buffalo, was another one of the iodide-arsenic products. Analysis made by the chemical laboratory of the American Medical Association showed that the Frontier Asthma Remedy contains potassium iodide, caffeine and a salt of arsenic.

Fugate's Asthma Remedy.—The state chemists of Connecticut analyzed this preparation and reported in May, 1928, that it was a mixture of potassium iodide and potassium arsenite.

Gardner's Remedy.—This preparation of W. J. Gardner and Company, Chicago, when examined some years ago in the chemical laboratory of the American Medical Association, was found to be an alkaline solution with the odor of tar and containing iodides.

Hair's Asthma Cure.—Margaret R. Cochran and Westanna McClelland, who were known to the public as Dr. B. W. Hair, exploited this remedy as a cure for asthma. When analyzed by government chemists, it was found to contain potassium iodide in a mixture of alcohol, glycerin and water. As this will not cure asthma, the product was declared misbranded and a fine imposed.

Hayes Asthma Cure.—This is exploited from Buffalo, N. Y. When analyzed some years ago in the Pharmaceutical Institute of the University of Berlin, the "treatment" was said to comprise: *No. 781,* chiefly oils of turpentine and peppermint, made into an emulsion and sweetened with syrup; *T. I. Q.,* potassium iodide, a little wine and hydrochloric acid; *No. 769 A.-C.,* a syrup containing potassium and ammonium iodides; *T. II Q.,* a liquid iron peptonate; *No. 808,* capsules containing quinine sulphate, and *No. 763,* pills having for their active principle, jalap.

Hart's Swedish Asthma Medicine.—When tested in the chemical laboratory of the American Medical Association some years ago, this preparation was found to contain large amounts of iodides.

Himrod's Asthma Powder.—This, it appears, was a powder that was to be ignited and the fumes inhaled. A British report declared that the powder was a mixture of fennel, stramonium and saltpeter.

Himalya.—This was advertised as "Nature's Great Specific for the Cure of Asthma." The state chemists of North Dakota reported some years ago that Himalya was a solution of potassium iodide in alcohol and water, with peppermint and licorice flavoring.

Kellogg's Asthma Remedy.—The Northrup-Lyman Company of Toronto, Ontario, sold this preparation, which was analyzed by the state chemists of North Dakota and reported to contain stramonium and saltpeter.

Lane's Asthma Cure.—D. J. Lane, St. Mary's, Kan., sold a product that, before the federal law made lying illegal, was known as Lane's Asthma Cure but later was called Lane's Asthma Treatment. When the stuff was analyzed by the A. M. A. chemists, it was found to be essentially a solution of iodides in alcohol and water, with vegetable extractives.

Leaven's Asthma Prescription.—The Leavengood Drug Company of Rosedale, Kan., asserted that its "asthma cure" was discovered by a famous druggist, Mr. C. Leavengood. According to the story, instead of discovering it, Leavengood merely used a prescription written by some doctor. The preparation was analyzed in the chemical laboratory of the American Medical Association and was found to be, for all practical purposes, potassium iodide, sugar and water.

Munyon's Asthma Cure.—Quack Munyon, who did business under the name Munyon's Homeopathic Home Remedy Company, had a product that he claimed would "permanently cure asthma." Government chemists analyzed it some years ago and found that it consisted of sugar and alcohol. The claim that it would cure asthma was declared false and Munyon was fined.

Plantoxine.—The Plantoxine Company, which was said to be a trade name used by Edward W. Crittenden, sold Plantoxine as a remedy for hay-

fever and hay asthma. When analyzed in the chemical laboratory of the American Medical Association, the stuff was found to be milk sugar.

Powers' Asthma Relief.—The E. C. Powers Company of Boston put out this product, which was analyzed by the state chemists of North Dakota, who reported the presence of stramonium leaves, mullein leaves, anise seed and saltpeter.

Raz-Mah.—This stuff is put out by Templeton's, Inc., of Detroit and Templeton's, Ltd., of Toronto. The National Department of Health of Canada and the chemical laboratory of the American Medical Association have both analyzed this nostrum and found that each capsule of Raz-Mah contains approximately 4½ grains of aspirin with some charcoal and caffeine.

Rinex.—This was marketed by the Clinical Laboratories Company of Cleveland, Ohio, and was said to be the prescription of one Dr. M. G. Platt. Rinex comes in capsule form. When analyzed by the chemical laboratory of the American Medical Association, each capsule was found to contain 2 grains of aspirin, 1 grain of phenacetin and ⅙ grain of quinine, with a small amount of a vegetable laxative.

Schiffman's Asthmador.—The R. Schiffman Company of Los Angeles, formerly of St. Paul, Minn., used to sell this preparation under the name Schiffman's Asthma Cure. The North Dakota Agricultural Experiment Station reported on the product several times, stating that the preparation was made up largely of vegetable matter, to which was added a small amount of stramonium leaves and saltpeter.

Stello's Asthma Cure.—This was put out by one W. H. Muller of New York City and sold under the claim that it was entirely vegetable. Government chemists found it to contain potassium iodide, cannabis indica and alcohol.

Sterline's Asthma and Hay-Fever Remedy.—Webster K. Sterline, who did business under the trade name National Chemical Company of Sidney, Ohio, sold this product. When the preparation was analyzed by the federal chemists, it was found to be a water-alcohol solution of potassium and sodium iodides, bromides and acetates, together with a laxative plant drug. The claim that it would cure asthma and hay-fever was declared false and fraudulent, and Sterline was fined.

Taft's Asthmalene.—According to a report made some years ago by the state chemists of Kansas, this was another iodide preparation, containing more than 6 per cent of potassium iodide.

Tucker's Asthma Specific.—This nostrum, sold from Mount Gilead, Ohio, on the mail-order plan, declares on the label the presence of 5 grains of cocaine to the fluid ounce. The stuff has been analyzed at various times and substantial amounts of cocaine have been found. The manufacturers claim that the cocaine put into the preparation is destroyed by other chemicals that enter into the formula. The Treasury Department of the United States has admitted that the product contains cocaine, or derivatives of cocaine, but has not prohibited its sale, although its sale to the public violates the Harrison Narcotic Law. If the preparation does not contain 5 grains of cocaine to the ounce, as declared on the label, its sale violates the National Food and Drugs Act. For reasons not clear, neither the Treasury Department nor the Department of Agriculture has proceeded against this Ohio nostrum.

Webb's Famous Prescription.—This product was put out by the Webb Chemical Company of Kansas City, Mo., one of the numerous mail-order frauds of the Burgess-Johnson-Webb trio. One of the testimonials for the product was ascribed to a Mr. Warren Burgess, the public having no means of knowing that Burgess was one of the promoters of the swindle. Webb's Famous Prescription consisted of tablets and a liquid, the latter to be used in a nebulizer. The tablets contained potassium iodide, powdered lobelia and powdered squill, while the liquid was a mixture of novocain and atropine sulphate in water and glycerin. In February, 1926, the government declared the Webb Chemical Company a fraud and debarred it from the United States mails.

The Runabout Child and his Problems

By Frank H. Richardson

X. The Gist of It All

JUST how serious a matter is the care of the runabout child? Need the parent worry about all the things we have been considering in this series, or will they adjust themselves without our taking conscious thought about them? Just what constitutes acceptable and conscientious parenthood of the runabout child?

Starting on a Program

Fortunately for all of us poor mortals, there is in nature an inherent tendency to grow in the right direction and to do the right thing. If we could make sure that the conditions under which the runabout child is growing up were perfectly natural ones, we could leave a great deal to nature's kindly oversight and inherently correct tendencies.

Unfortunately for the working out of this comfortable theory, we must remember that we are far removed from a state of nature. Nature never subjected nasal passages to the insidious attacks of soft coal smoke and the soot of unburned carbon. Nature never planned small type for man's eyes or long school days of confinement behind posturally faulty desks and upon improperly designed chairs. So man must step in and compensate for these unnatural elements, if he would salvage his children from such vicious influences. The plans outlined in these articles and the examinations that have been advocated would seem, after all, about as little as the conscientious parent dare adopt, in the interest of his runabout child.

Just how can such a program be inaugurated? One indispensable link in the chain has been hinted at in all the preceding articles in this series. That link is the family doctor. He alone is qualified by training, by experience and by personal interest in his little patient to make the decisions on which health and happiness and efficiency for both the present and the future depend. Without him, the program that has been outlined falls to the ground, for he alone can make the technical examinations and weigh the evidence that they provide and he alone can draw the conclusions that will influence the conduct of the whole effort at betterment.

The Spring Round-Up

The Parent-Teacher Association has hit on a statesman-like approach to the problem presented to the nation in its care of runabout children. The suggestion, in a nutshell, is neither to wait until the school examinations bring out errors that need correction and then correct them, with loss of time from school, nor to leave them uncorrected, with permanent dragging, loitering and suffering from preventable illnesses. Instead of this, is proposed the spring round-up, taking the term from the comparable procedure on the western plains in which the cattlemen "round up" the calves born on the range during the previous months, in order to brand them. In the handling of each calf, which the branding entails, the opportunity is embraced of feeling him all over, sizing him up and administering whatever rough

veterinary medicine or surgery the cowboy is able to give him.

In adapting this procedure to the schools, a day in spring is chosen by the school authorities, working in connection with the parent-teacher organization affiliated with it. The mothers of the community are asked to bring in to the school on that day all children whom they expect to enter in the fall. In order to find room for these children, the pupils occupying the first primary grade rooms are given a holiday for the day, and the preschool children thus "rounded up" are placed in the rooms that they are to occupy in the fall.

Each Gets Physical Examination

A careful physical examination is then given to every one of these children by the school doctor, the doctors of the community or any volunteer or paid medical talent that is found to be available. Such medical talent can be spread out greatly and rendered more pleasant for the doctors to give as well as more valuable for the community to receive, if the project is so organized that clerical work, weighing and measuring and all routine procedures that can possibly be delegated are put into the hands of volunteer aides. Parents or teachers can easily be enlisted for such a community project. If medical talent is thus conserved and if the doctors are asked to do only strictly medical work, rather than their own recording, an immense amount of ground can be covered.

The community and the school are then placed in a position similar to that of the business man who inventories his stock and as a result knows how best he can accommodate it. The school also has another advantage that the business man insists upon—it knows in advance of delivery the condition of the material that it will have to work with.

The next step is obvious. It is to report to each parent in what particular way his child falls short of health and normal development and to persuade him to have corrections made before school opens in the fall.

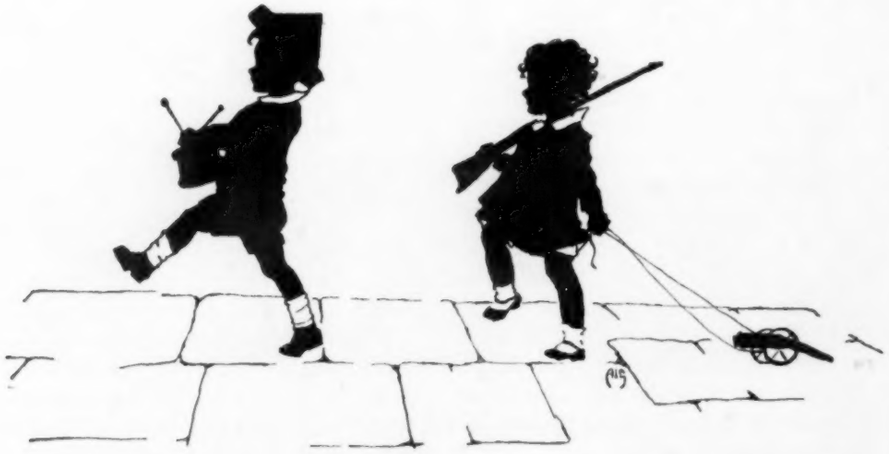
Such mass action accomplishes many things. It persuades many a reluctant parent to do what he ought to do but what he might never summon up the resolution to accomplish singlehanded. It is possible for the doctors to arrange for such surgical procedures as the removal of tonsils and adenoids, for instance, at less cost to the parents and at more favorable net compensation for themselves; for it must be remembered that much of the cost of medical and surgical treatment is due to the fact that so much work is done in scattered fashion that could be done better and at less cost if the doctor could group his cases and pick his time. When other operations are necessary, it may be found possible to bring in needed surgical help from outside if the community is a small one, instead of sending large amounts of money out of town.

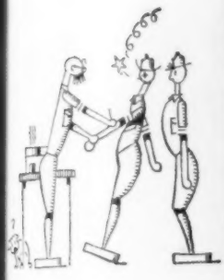
Don't Be Afraid of Being Pioneers

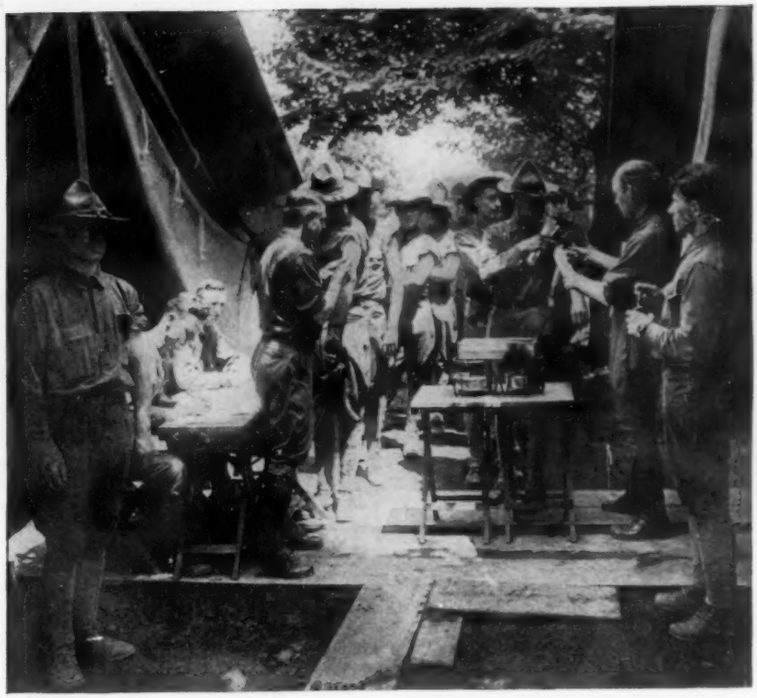
But, best of all, the children come to school in the fall ready to devote their best energies, physical and mental, to the myriad new tasks and experiences that the beginning of school brings to the young child. They are not hampered, as too many now are, either by the handicap of preventable physical defects or by the surgical correction during school days of conditions that should have been remedied in the uncrowded days before school opened.

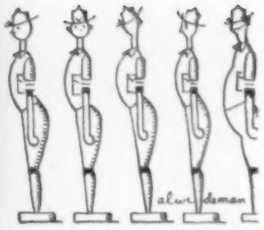
Community action is of great assistance to the parent and should be encouraged by him whenever it seems possible to inaugurate it. But it is not indispensable and those of us who want the best for our children can get it by our own initiative, whether or not others are sufficiently informed to get it for theirs. As is frequently the case with good things, we may have to be pioneers.

(THE END)









Health Conservation in the Army

IN RETROSPECT

By Surgeon General Ireland

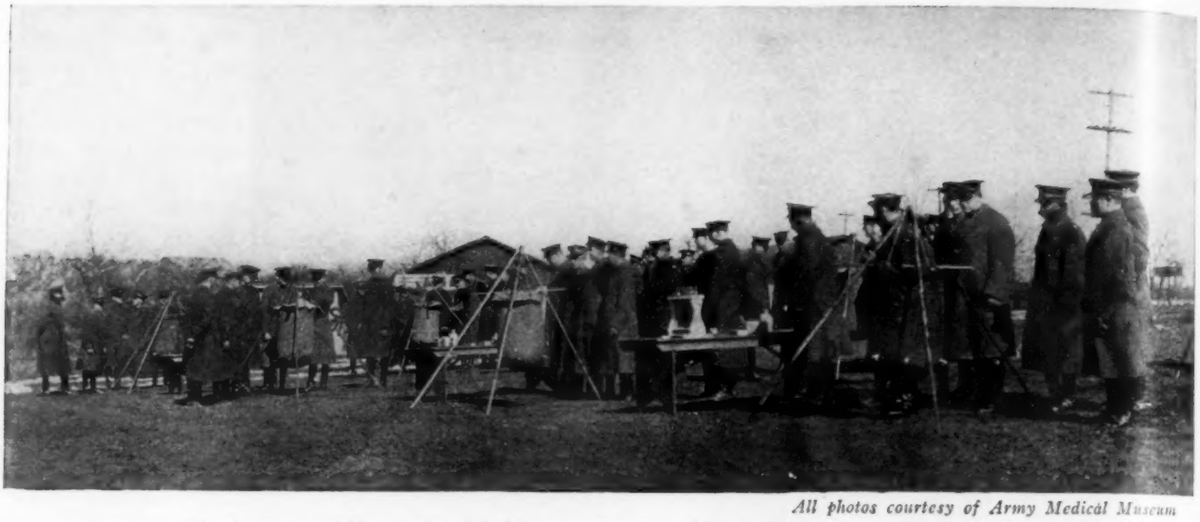
SOMETHING of the results we are obtaining in our Army in health conservation can best be told by considering the subject from two points of view: first, by comparing our sickness and death rates of many years ago with those prevailing at the present time; and, second, by selecting examples from a group of diseases for which special preventive measures have been developed during recent years and telling of the marvelous results obtained through the application of such measures.

Some of the statements that I shall make regarding sickness and deaths in the Army are based on the methods of expressing such rates in use by health officials throughout the world; namely, the number of cases of illness or death occurring each year per thousand or ten thousand or one hundred thousand of the total population concerned.

If one has no clear conception of the meaning of these rates, erroneous interpretations, of necessity, will follow. Doubtless many who read this will be somewhat amazed when I say that the yearly sick rate for troops on duty at Baton Rouge, La., a hundred years ago was approximately 5,000 for every 1,000 troops on duty at that station and that even during 1927 the annual sick rate for diseases for all military personnel in the Army was 655 per 1,000.

In explanation of these figures I may say that, in the Army, if a person is at any time not present and doing the duty to which he is assigned, he must be accounted for. Absences, as a rule, are due to illness and in military parlance men absent from duty because of illness are "admitted to sick report," and record is made and reported of the character of the illness. At the end of the year or the particular period being reported on, the sum of all cases of illness is recorded and the sick rate per 1,000 of military personnel is determined from the sum total. Our disease rate of 655 per 1,000 does not mean, therefore, that more than one half of every 1,000 men in the Army were sick during the year 1927. As a matter of fact, a considerable number of soldiers are but rarely, or never, sick, whereas others are absent from duty on account of illness two, three or more times during the year.

When one investigates the sick rates for individual diseases it is possible to gain more specific information. One attack of some diseases renders the individual, for all practical purposes, immune to



All photos courtesy of Army Medical Museum

Army method of providing safe drinking water by chlorinating the water in a Lyster bag.

subsequent attacks of the same disease. Yellow fever, typhoid fever and measles may be cited as examples. In certain other diseases the immunity conferred is of a transient nature and repeated subsequent attacks may occur. Common colds, pneumonia and malaria may be cited as examples of this type.

When, therefore, public health officials publish rates per 1,000 or 10,000 or 100,000 for typhoid fever, it may safely be assumed that each case represents a separate individual. It also is obvious that a person can die only once and death rates represent individuals. In published rates for such diseases as common colds or malaria, the same person may have two or three or more attacks during the same year and that person is counted two or three or more times in the compilation of the rates.

One Hundred Years of Progress

With these explanations in mind, I can now indicate the progress made by the Army in the prevention of disease and the prolongation of life.

A hundred years ago our sick rates in the Army were approximately 2,800 cases of illness each year for every 1,000 men in the Army. During the course of the century it has been gradually reduced to the present rate of approximately 600. This means that for each case of illness occurring during recent years, approximately five occurred a hundred years ago.

During periods of epidemics the rates in the olden days were much higher, sometimes rising to 4,000 and 5,000 cases of sickness for every 1,000 soldiers in the Army.

The progress that has been made in health conservation can be still more clearly visualized by comparing the death rates in the Army from disease a hundred years ago with those of today. A hundred years ago 31 men in every 1,000 died of disease each year. This rate has gradually been lowered until in recent years it has ranged around two men in every 1,000, going even below two deaths in every 1,000 soldiers during 1924 and 1925. In other words, for every death from disease that occurs in the Army today there were fifteen deaths a hundred years ago.

A hundred years ago the hardy and indomitable pioneers of this country were engaged in extending the inhabitable areas of the United States and preparing them for the wonderful development that we of these days and times are permitted to enjoy, and it is difficult for this generation to visualize the fact that of every 1,000 soldiers sent to frontier stations to guard and protect these pioneers from 25 to 30 died of disease each year under normal conditions and that in some instances the number rose to one fourth of the entire command.

At the Baton Rouge Garrison

I wonder, for example, how many of the people living in Baton Rouge, La., today are aware of the fact that during the period 1819-1824, inclusive, in the Army garrison located there, from 21 to 26 soldiers in every hundred died each year. The records indicate that this distressingly high death rate was due to malaria, the dysenteries and exposure while engaged in the construction of public works.

It may be of interest to the people of New Orleans to know something of the appalling number of deaths occurring in 1809 in a military command of 2,000 men encamped at Terry-Aux-Boeufs on the east bank of the Mississippi about 15 miles below New Orleans. These 2,000 men suffered from malignant malaria, dysentery and scurvy to so terrible an extent that half of them (1,000) died at the camp, during their transfer up the river or soon after the arrival of the command at Washington, Miss., the new station to which they were assigned.

The following account of an outbreak of scurvy in a military command doubtless will be of special interest to the citizens of Council Bluffs, Iowa. In 1819 the Sixth Regiment Infantry, then stationed at Plattsburg, N. Y., was ordered to Fort Calhoun, about two miles above Council Bluffs. The regiment first went to Pittsburgh, and thence by water to St. Louis. From there they proceeded up the Missouri River to Council Bluffs, arriving there in October, 1819. The trip up the Missouri in open boats was one of unparalleled hardships which severely impaired the physical condition of the men.

A Hard Winter in Iowa

On arrival at Council Bluffs it was necessary for the command to construct log cabins for shelter. During December, 1819, and January, 1820, the weather was exceedingly cold. The supply of fresh beef was exhausted in January; no fresh vegetables or fruits were available at that season. The available food consisted of salted pork, bacon, flour and corn meal. The greater part of the meat was partially decomposed and unfit for use.

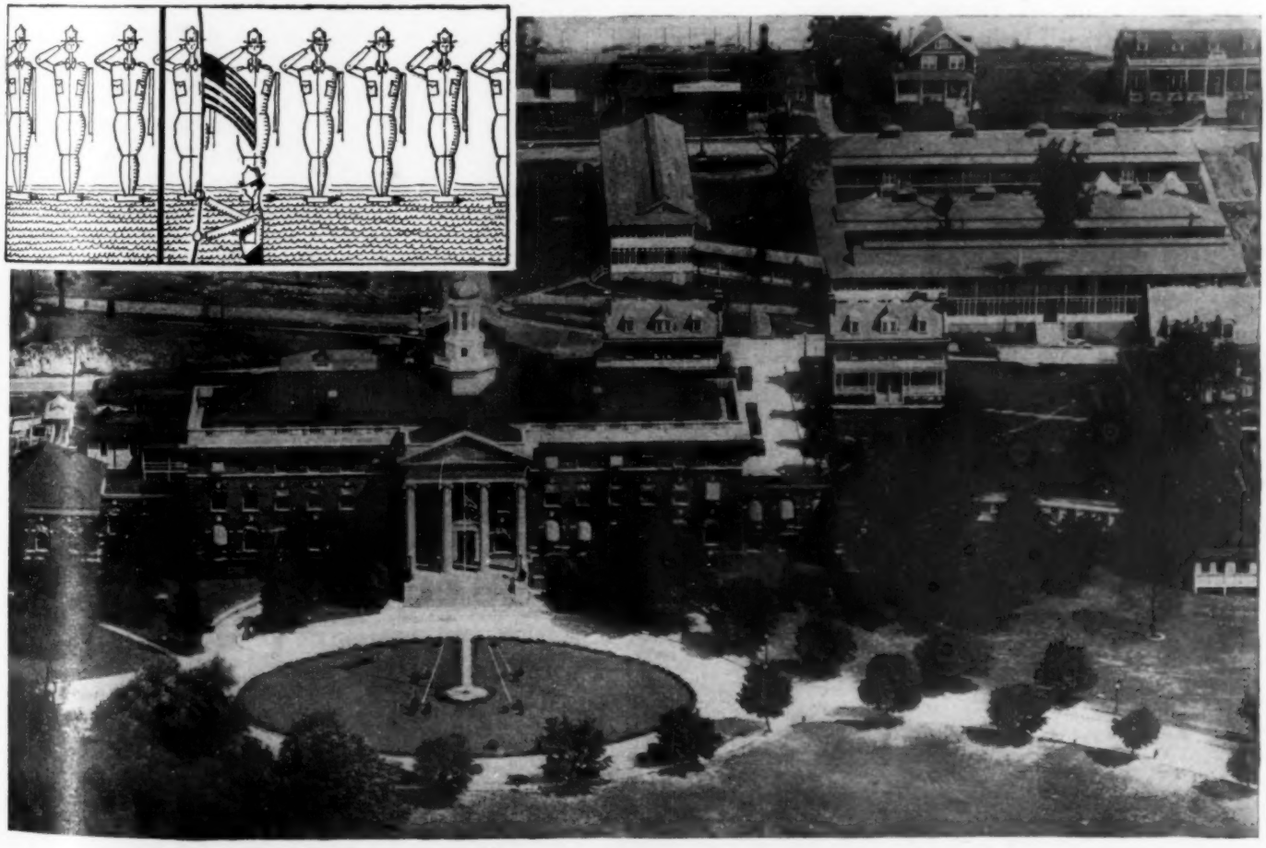
Much of the limited stock of flour had become soaked with water on the trip up the Missouri and when the sacks were removed the contents were a solid mass. Before bread could be made it was necessary to pound it into a powder and even then the result was a musty flour unfit for use. The corn meal also was spoiled.

As a result of these desperate straits, outbreaks of pneumonia, dysentery, and especially scurvy, occurred. In the command of 1,100 men, consisting of the Sixth Infantry and a rifle regiment, 190 died during 1820, and 177 of the deaths were attributed to scurvy; more than half of the men had scurvy in some form. The medical officer reported that in some of the patients who ultimately recovered every tooth had dropped out and in some instances parts of the lip had sloughed off.

Such outbreaks of scurvy as those to which I have referred are inconceivable to us of this generation, thanks to the fact that scientific investigations have opened up to us the exact methods of prevention, and existing storage and transportation facilities enable us to make available to the populations throughout the world the potatoes, tomatoes, lemons, oranges and analogous edible fruits and vegetables of high vitamin content, the consumption of which serves to prevent scurvy. Thus another health problem has been solved.

Canoeing Through a Florida Hospital

In 1822, a military garrison was maintained at St. Marks, Fla. The following quotation from a report from the garrison surgeon relative to the hospital at that station gives one some



A modern army general hospital, showing temporary expansion units added during the World War.

insight into the conditions confronting our forefathers:

> My hospital is very bad and more or less wet at every rain. On the 16th of September the tide rose uncommonly high, which nearly inundated this place and the whole of the adjacent country; the water was a foot deep in the hospital; in fact I visited my sick and went through it in a canoe. The bunks were high, which kept the men out of the water, but this, as well as the wet from the rains, had a very injurious effect on my patients, particularly those laboring under dysenteries and diarrhea. This place is generally damp, being all made ground.

The improvements in health conditions and decrease in sickness and deaths in the military service during the last 100 years apply with equal force to the general population of the nation during the same period of time.

Remarkable progress has also been made in the Army in the prevention of disease by the use of special preventive measures made available through scientific investigations.

To illustrate this phase of my subject, I have selected two diseases, typhoid fever and smallpox. Why is it that during the last fifteen years typhoid fever has become a medical curiosity in Army hospitals and among military personnel?

Combating Typhoid Fever

Typhoid fever doubtless has been one of the ills to which the human race has been subject from time immemorial, but it was not until after the epoch-making discoveries of Pasteur that we began to gain any definite and clear-cut conception of typhoid and, for that matter, of many other diseases. It was the work of Pasteur that laid the foundation for, and gave impetus to, the conception that transmissible diseases in general are caused by living organisms of vegetable or animal nature, rather than being the results of miasma, blood humors or the visitation of evil spirits. Through the development of this conception have resulted the marvelous contributions to our knowledge of disease since the latter part of the nineteenth century.

Until some years after the Civil War, typhoid frequently was confused with typhus fever, malaria and other ill-defined diseases, but since that war our knowledge of typhoid has become increasingly more definite and exact. That there may be no question concerning the accuracy of my figures, my statements concerning the occurrence of typhoid in the Army will be confined to the period subsequent to the beginning of the Spanish-American War. During the period of that war there were approximately 300,000 men in active military service and of this number about 21,000 suffered attacks of typhoid fever and 2,100 died of the disease. Expressed in the terms ordinarily employed by health officials, it may be stated that of every 100,000 men in the Army at that time approximately 7,000 had typhoid fever and 10 per cent of those who had the disease succumbed to it.

In the years immediately preceding the Spanish-American War the rates were approximately 500 per 100,000, and until 1910 it was difficult to reduce them much below this level, the rate for 1908 having been 300. It was in the latter part of 1909 that vaccination with killed typhoid bacilli suspended in salt solution was first introduced into the Army on a small scale as a preventive measure. By the end of 1912 this protective measure had been applied universally to all military personnel with the result that only four cases for every 100,000 soldiers occurred in the Army in 1913. The results attained under peace-time conditions by protective vaccination can best be expressed in the statement that for every man who had typhoid after the application of this measure, 75 had it before it came into use.

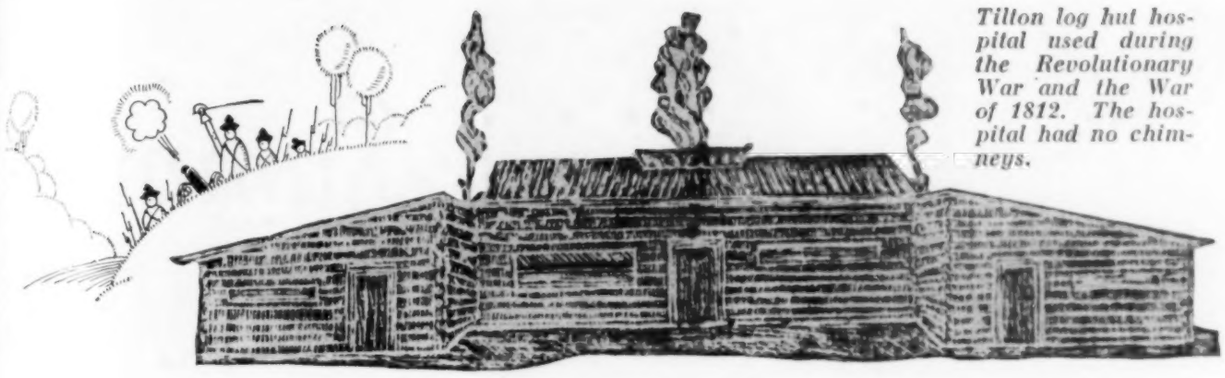
The World War offered an opportunity to demonstrate the immense value of this protective measure on a stupendous scale. More than 4,000,000 of our young men were called to active service and in this immense number of men less than 2,000 cases of typhoid occurred. The marvelous value of this protective measure can best be appreciated when one realizes that of every 100,000 soldiers in active service during the Spanish-American War approximately 7,000 had typhoid fever, whereas during the World War there were only 37 cases in every 100,000 men; or expressed differently, for every soldier who came down with typhoid during the World War, 189 had the disease during the Spanish-American War.

Though the protection afforded by the use of typhoid vaccine is of a high order, it is well to caution the reader that it is by no means absolute, and a person so protected who takes grossly contaminated water, milk or other food may come to grief.

During the last twenty-five years extraordinary strides have been made by the health authorities of the country in eliminating typhoid fever among the civil population. This has been accomplished by the introduction of increasingly effective methods of water purification and more efficient supervision of such supplies, by the proper disposal of wastes and adequate supervision of the distribution of milk and other foods, together with the more universal use of protective vaccination.

The Campaign Against Smallpox

Finally, I shall tell briefly of our experience in the Army with smallpox. Needless to say, the Army medical service appreciates fully the incalculable value of vaccination that Jenner gave to the world and every effort is made to keep our military personnel protected by vaccination at requisite intervals.



Tilton log hut hospital used during the Revolutionary War and the War of 1812. The hospital had no chimneys.

The only time during the last thirty or forty years that smallpox has given us concern was during the early days of the occupation of the Philippines (1898 to 1901). The expeditionary forces were dispatched to the islands hurriedly and without being properly protected against smallpox. It is a matter of record that during the Spanish régime and for the first few years of the American occupation 40,000 or more Filipinos died every year of smallpox. Our troops came in contact with smallpox of a most virulent type and as a result in a command of 177,000 men 675 contracted the disease between 1898 and 1901. It is a well known fact that vaccine virus quickly loses its potency unless kept at a low temperature and it was not feasible at that time to keep it at the proper temperature during shipment to the islands on transports and while being transported to the numerous military garrisons throughout the islands.

Fortunately our difficulties with smallpox were solved as soon as it became possible to establish a laboratory locally for the production of the vaccine. By 1908 the major part of the population of the islands had been vaccinated and smallpox practically disappeared. For the next seven years no deaths from smallpox occurred in Manila and in the provinces adjacent to Manila the death rate from the disease was reduced from 6,000 a year to zero.

The Philippine Smallpox Epidemic

During 1918-1919 one of the most devastating smallpox epidemics of modern times occurred in the Philippines, during which period more than 50,000 natives died of the disease, and this epidemic has been widely exploited by the opponents of vaccination as demonstrating the lack of practical value of vaccination. The facts are that, about 1914, a considerable degree of autonomy was granted the Filipinos. They were not adequately trained to administer their governmental affairs, and minor officials and vaccinators reported large numbers of vaccinations as having been done that were never actually done, stocks of vaccine virus were discovered in waste paper baskets, and other irregularities and deceptions were practiced. Investigation of the epidemic demonstrated the fact that 90 per cent of the cases of smallpox occurred in children who had never been vaccinated. While the epidemic was raging in the general population, only twenty-three cases of smallpox occurred in the 19,000 Filipino troops serving in the Philippines and not a single death occurred among these cases.

During the World War less than 1,000 cases of smallpox occurred in the 4,000,000 men in active service and more than half of this number had contracted the disease before they entered the Army. Only fourteen men died of the disease during the World War.

Smallpox prevails continuously in most oriental and tropical countries, and those who contemplate visiting such countries at this or any future time should be certain that they consult their family physician and have him vaccinate them before undertaking their journey. They can then travel without fear of infection.

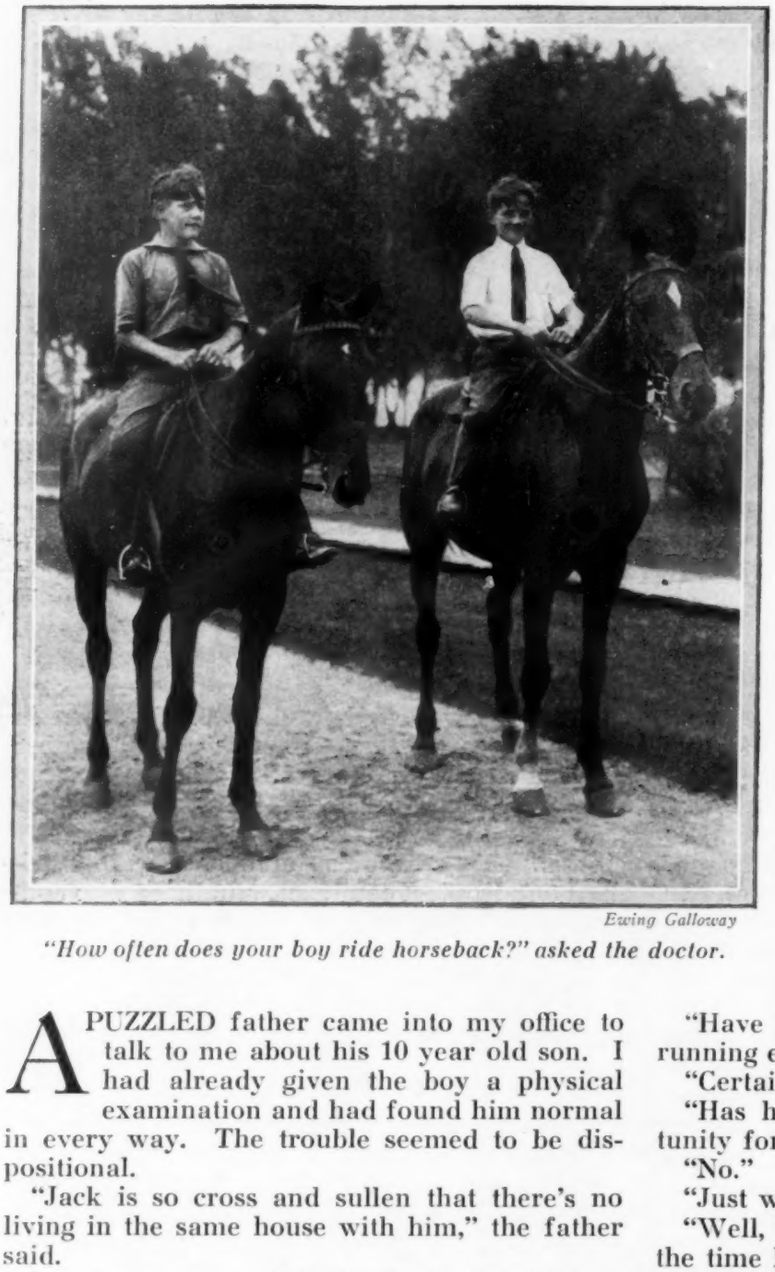
How the Public Can Help

In the foregoing I have endeavored to make clear and stress two outstanding facts:

1. Through contributions to scientific knowledge marvelous advances have been made in the conservation of health and prolongation of life during the past century. If the people of our country will continue to support their health officials both morally and financially and will contribute their share to research, it may be anticipated that these highly beneficent results will continue. Much has been accomplished; much still remains undone.

2. Vaccination affords a highly efficient protective measure against smallpox and typhoid fever and if the people of the United States in general will follow the advice of their family physicians and public health officials and take advantage of these protective measures these two diseases will soon disappear.

In conclusion, may I add that the medical profession is anxious and willing to do its part. Are you ready to do yours, to the end that mankind may enjoy further freedom from disease and a longer, richer and happier life?



Ewing Galloway

"How often does your boy ride horseback?" asked the doctor.

Summer for the

By John C. Baldwin

A PUZZLED father came into my office to talk to me about his 10 year old son. I had already given the boy a physical examination and had found him normal in every way. The trouble seemed to be dispositional.

"Jack is so cross and sullen that there's no living in the same house with him," the father said.

It was summer, and Jack's family lived in the city.

"Why isn't your boy away at camp?"

"We thought it unnecessary to spend that amount of money."

"Where does he go swimming?"

"He doesn't go, except occasionally when we are away for a week-end."

"How often does he ride horseback?"

"Not at all, but he has a bicycle."

"And he has plenty of comrades to go riding and hiking with?"

"Well, no, we hardly think it safe for him to go so far from home, and we don't like the boys of this neighborhood."

"Of course he has a dog or pets of some kind?"

"No, doctor, you really can't have animals in town, and his mother doesn't like dogs."

"What sort of work have you provided for him to do?"

"Nothing special, but if his mother so much as asks him to go on an errand for her, he's disagreeable about it."

"Have you ever thought of paying him for running errands?"

"Certainly not! He ought to be glad to help."

"Has he a shop or a laboratory, or opportunity for craft work of any kind?"

"No."

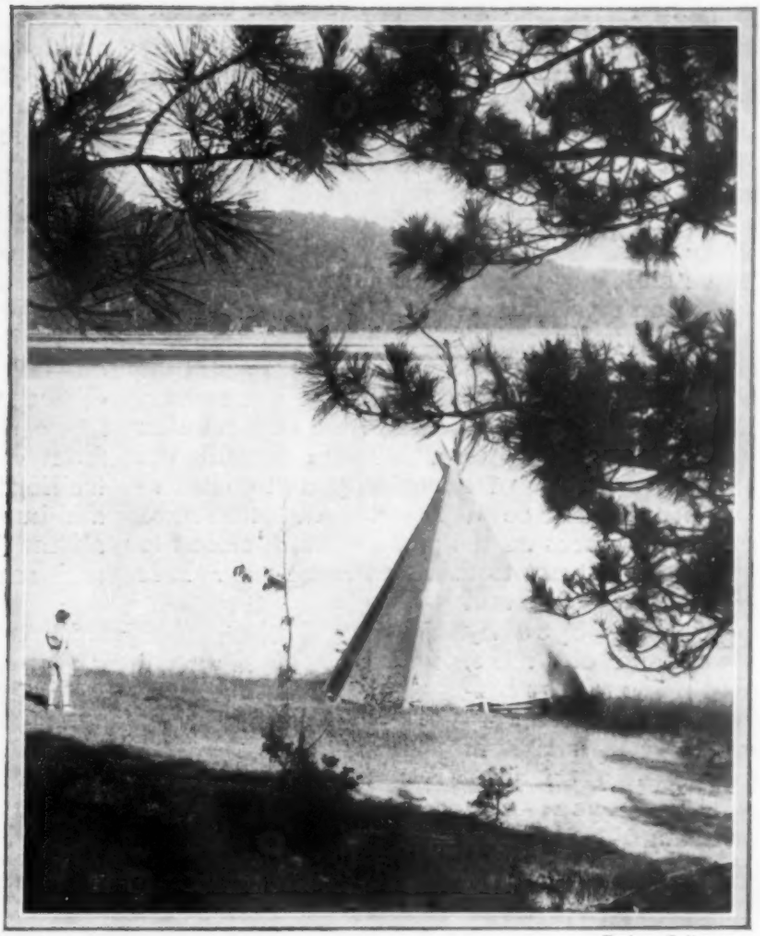
"Just what does Jack do all day?"

"Well, he reads a good deal, and the rest of the time he just seems to sit around and growl and annoy every one."

By this time, Father began to realize that perhaps Jack had good reason for growling. He began to get interested. During the next few days, he discovered several things about his neighborhood—such things as swimming pools and riding schools and the fact that the other boys were not such a bad lot after all. He discovered that the back yard had interesting possibilities in the way of work, and that Jack was surprisingly enthusiastic about working for so much an hour. Then, too, there was room in the yard for a cage of guinea-pigs, and there were lots of interesting things to learn about them. Jack's growling was heard no more.

The improvement in Jack's disposition was not the only factor involved in this case, or in many similar cases, for the problem is a common one. Equally important was the question

Occupations Children



Ewing Galloway

"Why isn't your boy away at camp?" was another question.

of the development of the child's body. One subject that many of us are apt to neglect in the bringing up of our children is their physical education. Too often we leave to chance what they shall learn in the way of sports and games and pastimes.

In examining many thousand children, I have been impressed by the fact that the city child, though he has only the streets to run in, has legs that are fairly well developed; but almost invariably the shoulders and arms, when compared with those of his country cousin, show underdevelopment.

To remedy this deficiency, I have found nothing so helpful as a workshop, however rudimentary it may be. Working with tools develops the neglected muscles of the hands, arms and shoulders and gives good training in coordination. Climbing is another splendid exercise, and a "shinnying tree" on the place is as good as a gymnasium. If the right kind of trees are available, older children may well combine carpentry and climbing, to their great advantage and amusement, by building houses in the trees—exercise, training and high adventure! Make such a house the headquarters of the neighborhood gang, and you have all the requirements necessary for general physical development. For with plenty of pals, there will be running and jumping and wrestling, and certainly also a bit of miscellaneous fighting among them.

If you are fortunate enough to have the space, you will find it worth while to give each child a small garden; hoeing is excellent exercise for the hips, back and shoulders. Wherever your home may be situated, a little thought will enable you to provide forms of amusement and occupation that are good body builders.

But one has not only to supply sufficient exercise for proper development during childhood but also to cultivate outdoor interests that will continue the good work that a well ordered childhood has started. Older boys and girls will not romp and race for the sheer love of motion, as do younger children. They want more sophisticated sports. This tendency to exercise only when the exercise has a definite sporting aim becomes stronger as one grows older. Men who will not walk five blocks from office to home will tramp all afternoon over the golf links or all day following a mountain stream for trout.

There are certain fundamentals, such as swimming, riding, skating and dancing, that all children should learn. Not only are they good physical developers, but they are great fun, and the mental and physical stimulation that comes from such whole-hearted enjoyment is of distinct value to the child. Let us consider these fundamentals separately and see where such a line of thought leads us.

Every child should be taught to swim. Next to walking, it is probably the best all-round exercise at our disposal, and it is a measure of safety to be demanded of all those who would

go boating, bathing or fishing in deep waters. Swimming in natural water—ocean, lake or river—is, of course, the first choice, but when this is not possible some other opportunity should be sought. Swimming is now taught in many schools; country clubs have their outdoor pools, and most cities have good municipal pools. A knowledge of swimming, however acquired, should head the list of requirements in the child's physical education.

Next on my list comes horseback riding. The motor, to be sure, has somewhat replaced the horse, but only somewhat. There is still as much truth as there ever was in the saying, "Nothing is so good for the inside of a man as the outside of a horse." There is still the instinctive feeling of superiority that comes to the person astride a horse. And the most delightful places on the globe are still closed to the motor but not to those on horseback. It is a glorious pastime and may be enjoyed by young and old alike, with no special preparation save the ability to ride. So strive to put riding on your child's recreational program.

Ice skating depends on geography more than do most sports, but when it is available, it should rank high on the list. It is a tremendously joyous and invigorating sport and has the added value of coming at a season when many other forms of outdoor exercise are impossible. Give your child a chance to skate if you can.

Dancing is included in my list of fundamentals, not because of its social benefits or because it is in itself a delightful recreation—though these are both points in its favor—but because of its marked physical advantages. Not only is it excellent exercise, but it imparts a sense of rhythm that is valuable in practically every form of sport. I know of nothing, unless it is fencing, that gives the physical poise and grace acquired by dancing.

Ewing Galloway

You will find it worth while to give your child a small garden; hoeing is excellent exercise for the hips, back and shoulders.

After these fundamentals, I feel that every child should be taught at least one game of skill. Proper form in sports is more easily learned in youth than in later years and once mastered is never lost. Your child should not only learn to play, but to play well, the games that he selects. The list of these, headed by tennis and golf, is long and varied. Then there are the games of group combat for girls as well as for boys. To a great extent, these are played in the schools and all have their good points.

Finally comes the most fascinating group of all—the postgraduate courses, so to speak. The choice is wide. All forms of water sports, sailing, canoeing and the rest; all types of fishing, from delicate fly casting in small streams to trolling in oceans; shooting and riding to hounds and hunting with the camera in solitary places; all the joys of cross-country travel with pack and saddle, with canoe or dog team; polo, skiing, flying and a thousand others. Here you cannot choose for the child; you can only encourage and aid. It is often largely a question of mental attitude on the part of the parents.

Happy indeed is the parent whose son or daughter elects to follow the parental hobby! If there is ever a time when a father can be a real pal to his boy, it is when they are both engrossed in the same sport. If it is a sport having a literature and art of its own, as most sports do, so that he may surround himself with books and pictures to keep the enthusiasm high during off seasons, so much the better. Such a hobby is sure to become a source of recreation, a renewer of youth and a thing of endless delight throughout his whole life.

So let us take thought for our Jacks and our Jills and insure for them not only a good physical development through sports and activities but also interests that will greatly add to their future health and happiness.

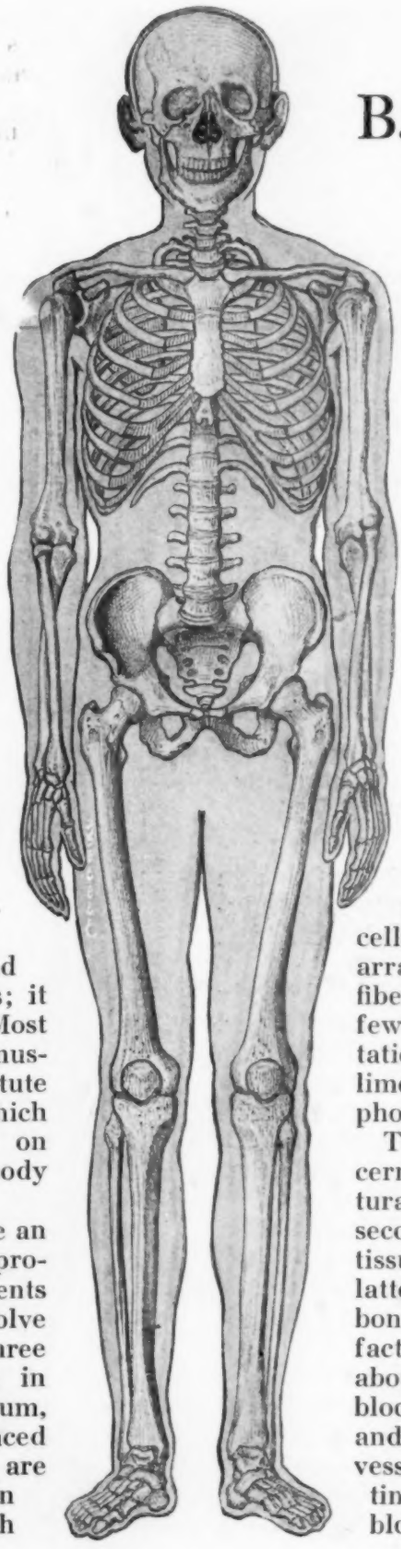
SIMPLE LESSONS *in* *Human Anatomy*

LESSON V

The Skeleton

By

B. C. H. Harvey



THE word "skeleton" is Greek. It meant to the Greeks a dried up body, a mummy. When we study the old mummies of Greece and Egypt now, the parts of them that we find to be still in fair condition are the bones, cartilages and ligaments.

So anatomists nowadays apply the term "skeleton" exclusively to these parts; they include necessarily the joints. Bones are the most durable parts of the skeleton. Skulls and other human bones from Java and Heidelberg, which have been recently studied, are believed to be nearly 500,000 years old. Thus the durability of bone enables us to form some picture of our remote ancestors (fig. 30).

The skeleton supports the body; it protects the brain and viscera of the thorax and pelvis; it cooperates with the muscles. Most muscles are attached to it, and muscles and skeleton together constitute the locomotive apparatus by which parts of the body move one on another and by which the whole body moves over the ground.

Bones, muscles and joints make an elaborate system of levers which produce these motions. Few movements are simple, and most of them involve the action of levers (fig. 31). Three kinds of levers are recognized in mechanics, according as fulcrum, load or power is centrally placed between the other two. These are the three parts of every lever. In the articulation of the skull with the vertebral column, the fulcrum is central; when we stand on tiptoe the load is central; when we hold a book in the hand the power (muscle) is central. So in our bodies, we use levers of all three kinds.

Vertebrate animals have the skeleton internal, like man. Most invertebrates have the skeleton external, like the lobster. In vertebrates this internal skeleton has been elaborated from the connective tissue, and all three parts of it —bone, cartilage and ligament —have as the basis of their structure connective tissue cells and connective tissue fibers, such as were described in Lesson II.

Only vertebrates possess bone. In them it is formed by modification of connective tissue cells of many kinds, by special arrangement of connective tissue fibers—of many white fibers and a few elastic fibers—and by precipitation in and around the fibers of lime salts, especially tricalcium phosphate.

The connective tissue cells concerned are, first, the ordinary structural cells, called fibroblasts, and second, the blood-forming connective tissue cells (fig. 32). Many of the latter become located in bone, and so bones are factories for the manufacture of blood cells. They produce about one million million new red blood cells every day in an adult man and turn them loose in the blood vessels for their three weeks' lifetime. They produce also white blood cells of many varieties. Some

other kinds of cells are present in addition: fat cells, others of the watch dog type and some débris removers, which eat up dead matter and foreign particles.

The white fibers in bone are infinite in number. They are massed together in every part of a bone that is solid; they constitute about 30 per cent of its weight, and they give it much of its strength, which is double the strength of oak. They are the source of the bone jelly that can be made by boiling bones; paper box makers use it to make the glazing on cardboard and paper. Glue makers make glue of it. There are also enough elastic fibers to make bones springy. If a fresh collar bone is laid on a table and tapped with a mallet it will jump actively, because it is elastic. In some countries where wood is scarce the natives use the ribs of large animals for bows and shoot arrows with them. This elasticity often saves us from fractures. But elastic fibers are everywhere short lived, so bones of old people are less elastic and thus more easily broken.

Tricalcium phosphate is abundant. It makes up more than half the weight of bone and gives it its stony hardness. It also gives bone its rigidity; a cubic inch of compact bone will stand a crushing force of more than two tons.

The exact chemical composition of bone, exclusive of water, is:

*Soft parts	31.
Tricalcium phosphate	58.2
†Calcium carbonate	7.
Calcium fluoride	1.5
Magnesium phosphate	1.3
Sodium chloride	1.
	100.0

*These can be boiled or burned away.
†Much more in adults than in babies.

Tricalcium phosphate is almost insoluble in water and body fluids. Bone has to be insoluble, for if it dissolved in body fluids it would not be a reliable or rigid support.

If tricalcium phosphate is not soluble in body fluids or blood fluids, how then does it get carried to bone from the stomach and intestines (the source of food) so that bone can grow? It is carried in the blood vessels in the form of lime salts that are soluble, especially in the form of calcium hydrogen phosphate and other more complex combinations. These change over into tricalcium phosphate in the bone. But body fluids can make it change back again during life into soluble forms, and in this fact is the essence of life, change, growth and disease in bone.

In early life, and especially before a child is 2 years old, these soluble and insoluble forms of calcium phosphate are constantly changing back and forth, and bone is being constantly made over; it could not grow if this interchange were not going on. The equilibrium of the interchange is such that in health there is always enough insoluble calcium phosphate to make fairly rigid bones.

But in babies the equilibrium is easily disturbed. Sunlight makes more insoluble calcium phosphate and so when babies are exposed to sunlight (ultraviolet rays) their bones become more rigid. Liver and cod liver oil in the food have the same effect (vitamin D). Lack of sunlight and of vitamin D results in the soft flexible bones that appear in rickets and bow-legs (fig. 33).

Exposure of babies to sunlight for brief periods each day will, if there are any phosphates in the food, prevent rickets entirely; there is always enough calcium in milk, but phosphates are deficient in the bodies of rickety babies. An increased blood supply makes tricalcium phosphate change into soluble salts, and so makes bone weaker. Interference with blood circulation makes soluble lime salts change into tricalcium phosphate and causes bone to become heavier and more rigid. In later life the interchange is not so free, but it is going on, and in disease it is often shifted to one side or the other, thus making more rigid bone or softer bone.

Soluble lime salts are necessary in the body; without them muscles cannot work, the heart cannot beat, nerves cannot carry impulses normally, the membranes that form the surfaces of cells do not have the proper permeability for body fluids, and the blood does not clot properly in cuts or wounds. Their general importance may be inferred from the fact that the milk of one cow would furnish about a pound of them in ten days; growing calves evidently need a lot of lime salts.

Thus bone is seen to have three great func-

tions: (1) it supports the body and protects parts of it; (2) it makes new blood cells, and (3) it is the reserve of calcium phosphates. Of these three functions, the last has only recently been recognized. The study of it has already made it possible to banish rickets from the earth and promises to be of great help in the control of many other diseases.

The number of separate bones in a man, 40 years old, is 206; the vertebral column has 26, the skull 23, the ribs and breast bone 25, the upper extremities 64, the lower extremities 62, the ears 6. This is the number in middle age, but the body changes greatly during its lifetime and this fact is especially evident in the bones. In a boy of 14 years, there are 350 separate bony masses; in a baby boy at birth there are 270; the individual bones of the adult are formed by the fusion of parts that were at first distinct from one another. There are formed at various times more than 800 of them. New ones continue to appear until the boy is 22 years old. They fuse with one another at definite ages, so that there are different and special totals for each age.

At every age up to 22, the number of bones in girls is different from that in boys, because in the whole process of bone formation girls

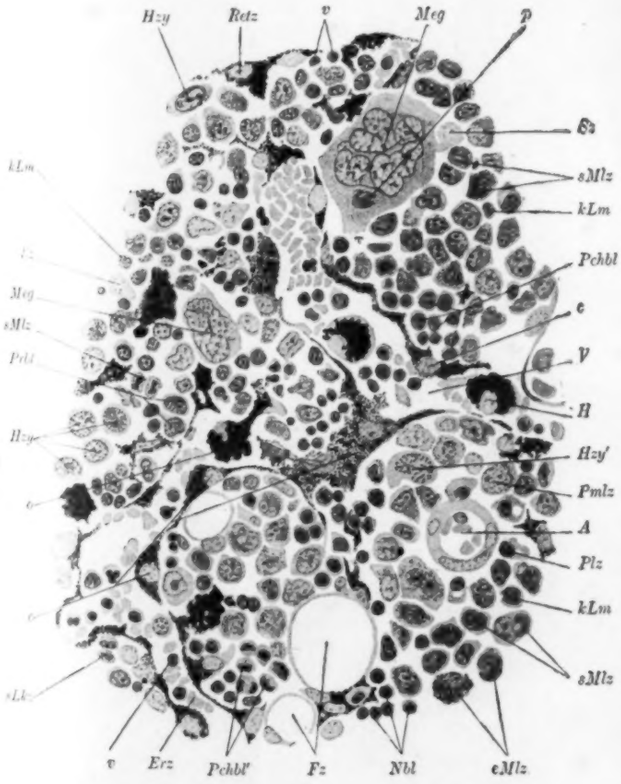


Fig. 32.—Section through bone marrow of a rabbit showing types of cells: Sz, fibroblasts; Nbl, Prbl, Pchbl, young red blood cells; Erz, older red cells; Hzy, very young blood cell, which may become either red or white; Retz, watch dog cell; H, scavenger cell filled with carbon particles which had been injected into the rabbit; o, scavenger cell loaded with carbon crawling into a blood vessel; Fz, fat cells; A and V, blood vessels; other letters indicate different kinds of white blood cells.

Fig. 33.—A baby with rickets was used as a model by the artist Hans Bergmaier in painting his "Virgin and Child" in 1500. The rachitic head and bow-legs are evident.

are at first weeks and afterward years ahead of boys. In this matter girls are precocious, boys are persistent. Races originating in the tropics are precocious in comparison with Nordic races.

The bones of the human body are usually classified according to their shape and this corresponds also to peculiarities of structure. Thus there are long bones as in the arm and thigh, short bones as in the wrist, flat bones as in the skull and irregular bones as in the face. Bone surface is variously sculptured so as to show processes, ridges, spines and tubercles and also pits, grooves, notches and canals (fig. 34). These are characteristic for each bone and some medical students can identify each bone with their eyes shut, guided only by its form. Canals and furrows usually mark the places in which separate elements have fused to form a composite bone. They conduct nerves and arteries. The surface sculpturing is always rougher and bolder in strong, active persons than in the weak and inactive.

Long bones articulate with other bones at their ends and these ends are both enlarged (fig. 34). This tends to give these bones a

Fig. 30.—Human skull found in Java in 1892 and head reconstructed from it by McGregor. (From Lull.)

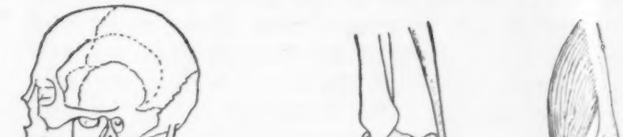


Fig. 31.—Arrangement of muscles and bones illustrating three types of levers. (From Testut.)

Fig. 34.—Right femur (thigh bone) from behind. (From Tandler.)

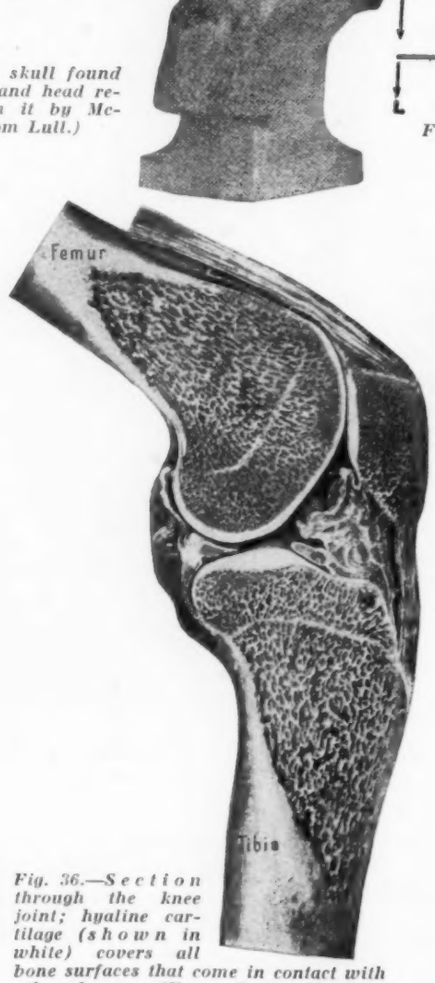


Fig. 36.—Section through the knee joint; hyaline cartilage (shown in white) covers all bone surfaces that come in contact with other bones. (From Rauber-Kopsch.)

Fig. 37.—Sections through the two ends of the femur showing compact bone and spongy bone. (From Toldt.)

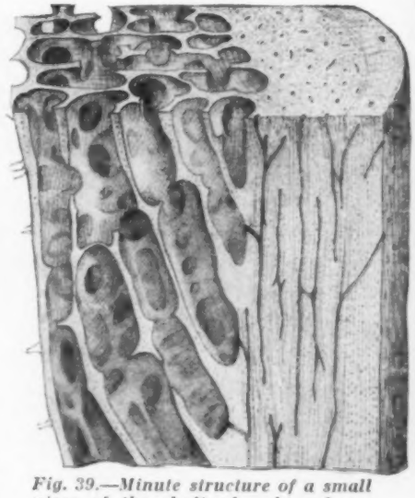


Fig. 39.—Minute structure of a small piece of the shaft of a long bone. (From Toldt.)

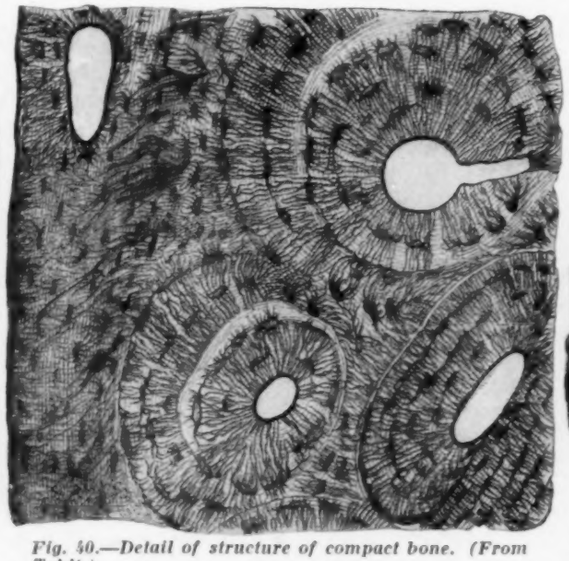


Fig. 40.—Detail of structure of compact bone. (From Toldt.)

Fig. 41.—Diagram of structure of the haversian columns of compact bone. The bone cells are omitted from the upper part. (Braus.)

dumb-bell shape, particularly noticeable during their early development. The large ends make the joint surfaces larger and the joints more secure, and they offer more surface for the attachment of tendons and ligaments. The shaft, or body, of long bones is usually cylindrical and always hollow. These shafts are tubes. Just as a steel tube is stronger than a steel rod of the same weight and length, so the tubular form of long bones makes them stronger in proportion to their weight.

The shape of short bones is determined by the mechanical requirements of their position and articulations or joints. Flat bones are admirably adapted to form coverings for deeper structures; the upper half of the skull is a hollow hemisphere formed by flat bones that enclose and protect the brain. The irregular bones of the face support the broad anterior part of the skull and they fill in the irregular spaces between the great cavities of the mouth, nose, eye sockets and ears. Many of these bones are hollow, containing great air spaces that connect with the respiratory passages of the nose. Such bones are much lighter than their bulk would indicate.

All parts of the surface of bones are covered with one of two substances, never with both at the same place; they are periosteum and hyaline cartilage (figs. 35 and 36). Surfaces that come into contact with other bones in joints are

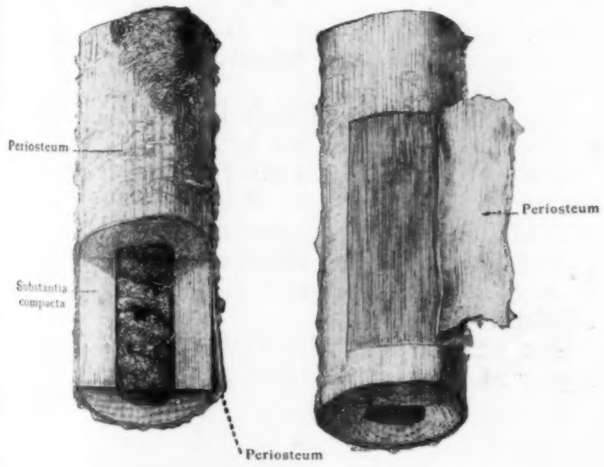


Fig. 35.—Section of shin bone, showing periosteum, compact bone and marrow cavity. The periosteum is thickened above the point at which a muscle is attached. (From Toldt.)

covered with hyaline cartilage, all other surfaces are covered with periosteum. The latter is a thick, tough membrane composed of white fibrous connective tissue with many cells and a fair proportion of elastic fibers. Periosteum contains many blood vessels and nerves. Thus the hyaline cartilage takes all the wear of joint motion, and the periosteum supplies the bone with blood vessels and nerves and receives the attachment of all tendons and ligaments; these go both to and through the periosteum, being partly attached to the deeper part of the bone.

Fig. 38.—Lines of strain in upper end of femur. (From Braus.)

The large holes (fig. 34) that appear abundantly at the ends of long bones and on the free surfaces of short bones are for the exit of veins. These are carrying away the new blood cells which are formed in the interior of bones. Minute arteries go into bone in great numbers from the periosteum. They are torn across when the periosteum is lifted from the bone (fig. 35) and constitute one of the bonds that attach the periosteum firmly to it.

The internal structure of bone is revealed by sections through it (fig. 37). This figure shows that there are two kinds of bone—compact and spongy. Compact bone forms the walls of the shaft. At the enlarged extremities it is reduced to an exceedingly thin paper-like layer, which forms the surface. The interior is formed entirely of spongy bone, and it is full of cavities that contain the marrow. The latter forms the blood cells. The marrow spaces become larger as the shaft is approached and the center of the tubular shaft is one great marrow cavity. The walls of the cavities are made of delicate plates and rods and spicules of bone. They are not arranged haphazardly but extend along definite lines.

An engineer calculated the lines of strain to which a crane in the form of the femur is subjected when the weight of the body rests on it. Figure 38 shows the diagram resulting from his calculations. Figures 37 and 38 are alike; it is obvious that the plates of bone are arranged in accordance with the lines of strain. Strains come with use, late in life, but these plates are laid down during development. This seems to be an instance of the inheritance of an acquired character.

The finer structure of the compact bone is shown in figures 39 and 40. The outer part consists of several surface layers which are wrapped all round the shaftlike sheets of thin paper. These sheets are so thin that it takes 5,000 of them to make a layer an inch thick. Between them are bone cells; these give off many fine hairlike processes (fig. 40), which pass through the layers and connect the cells with one another. The layers are made of fine connective tissue fibers, countless white fibers and a few elastic fibers. The layer is thoroughly infiltrated with lime salts.

The inner and much the greater part of the compact substance is made up of a mass of columns running lengthwise of the bone, each having a structure like that of a lead pencil made of paper (fig. 41). The column is hollow and a small channel runs up and down in the center in the place of the lead in a pencil. The column contains a tiny artery, some nerves and a lymph vessel. Around it are wrapped from three to twenty paper-like layers, similar to those just described, except that they do not surround the whole bone but are tightly wound around this tiny core. These layers are also thoroughly infiltrated with lime salts.

The columns near the surface are smaller than those farther in and their central canals are smaller. The thickest are $\frac{1}{60}$ inch in diameter, and the most slender are only $\frac{1}{2,500}$ of an inch in diameter. The average diameter is $\frac{1}{500}$ of an inch. They extend only a small fraction of the total length of the bone and end blindly, but the contained artery turns off sideways to communicate with other blood vessels in adjacent columns or on the bone surface (fig. 39).

Figure 41 shows an important fact in the structure of these columns. The fibers making up the successive layers run in different directions in different layers, but all in any one layer run in the same direction. That direction is always at an angle with the column axis, so the fibers are wound spirally. A column made of successive layers of tough fibers wound spirally in so many different directions is very strong. This is what enables long bones to withstand enormous strains applied in any direction, and it enables them to withstand twisting strains, or torsions.

These little columns are the key to the strength of bone. They were discovered by Clopton Havers, a London surgeon, who died in 1702, and so they are called haversian columns or haversian systems.

The chinks between the columns are filled by fragments of old columns, which have been partly destroyed (fig. 40). The appearance is just what it would be if, after bone was formed, long holes were bored in it with an augur or by a boring worm and the holes later filled with new haversian columns. This is exactly what occurs in the development and growth of bone. The larger spaces, which lie more deeply in the bone, are filled with marrow and communicate directly with the large central marrow cavity; they communicate also with one another.

Figure 39 shows that through the surface layers which surround the whole bone fibers pass radially in toward the center. These are fibers of periosteum that run inward, and frequently they are continuous with fibers of tendons or ligaments that are attached opposite them. Their position suggests that they are relics of former conditions when the bone was smaller and when tendons passed farther in to reach its surface. They suggest that the bone has grown out around the tendon fibers; and this is true. Their presence makes the attachment of tendons and ligaments firm and explains how it is that they sometimes tear off little pieces of bone when subjected to great strain.

Spongy bone consists also of similar layers with bone cells between them, but just as the plates and rods and spicules in spongy bone are irregular in shape and size, so the layers composing them are irregular. The definite arrangement so evident, so beautiful and so useful in the enveloping layers and in the haversian columns of compact bone is absent, except as occasional haversian columns appear in the larger plates.

But spongy bone affords the most complete protection possible in the human body to those delicate elements of the marrow which produce the red and white blood cells and which must, without interruption, contribute more than 40,000 of them to the blood stream every hour if our bodies are to continue healthy and efficient.

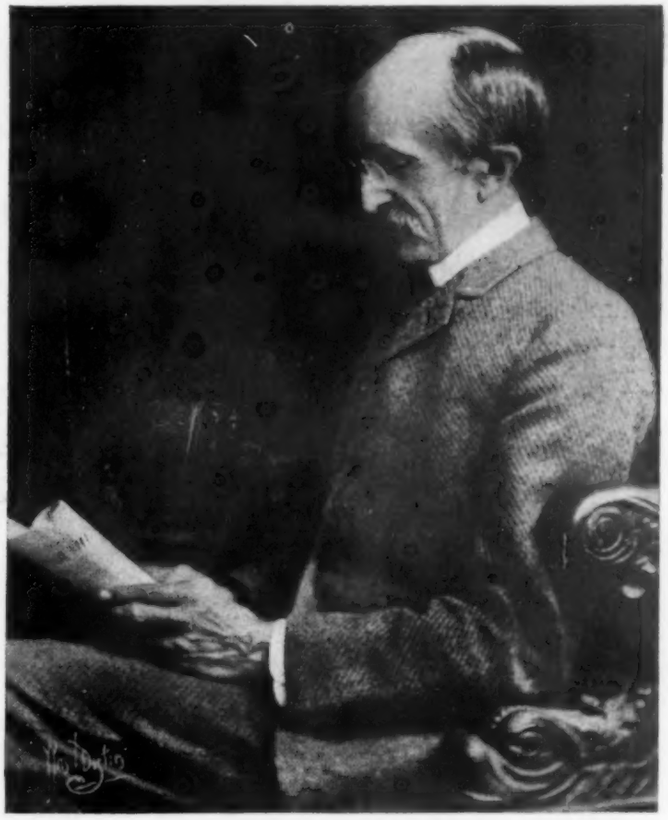
The next article will deal with growth and repair of bone, special bones, and joints.

TUBERCULOUS PHYSICIANS

and their Contributions

By J. A. Myers

Edward L. Trudeau



Dr. E. L. Trudeau, founder of the famous sanatorium at Saranac Lake, New York.

EDWARD LIVINGSTON TRUDEAU, the son of a physician, was born in New York City in 1848. While he was in school an unexpected event changed the course of his whole life. His brother, who had been delicate from childhood, became ill with consumption and Trudeau gave up everything to care for him until he died in 1865. During this illness Trudeau occupied the same room and even slept with his brother. After seeing him suffer for a long time and finally die, Trudeau was inspired to do what he could to alleviate the suffering of others, so he decided to study medicine.

Early Danger Signals

In 1868, Trudeau entered the College of Physicians and Surgeons, and while a medical student, he developed a cold abscess. He consulted a physician, who operated on it several times but the cause was not understood. After graduating from medical school and completing his internship, he was married, and the honeymoon was spent in England. While there Dr. Trudeau developed a swelling of the lymph nodes along the side of the neck. This was the second manifestation of tuberculosis, but because of the lack of knowledge at that time no one sounded the warning of impending danger. When he returned to America, he was troubled with occasional attacks of fever but attributed them to malaria.

Trudeau accepted a partnership with Dr. Fessenden Otis and the future seemed bright; but as time passed his health grew worse and, upon being carefully examined, he was found to be tuberculous. He was sent to the Adirondack Mountains in May, 1873. By September he was apparently in excellent condition and returned to New York. He hoped soon to return to work but the symptoms recurred and his physician urged him to spend the winter in St. Paul, Minn.

Of that experience Trudeau later said, "The winter in St. Paul was not a success, and as I was allowed to drive and walk and go duck hunting when I felt equal to it, I had some fever most of the time. By spring I was nearly as sick as the year before and the Adirondacks seemed my only hope, so we left St. Paul in May and early in June, accompanied by my wife, the two children and two nurses, I arrived at Paul Smith's to my intense joy, for I always loved the place."

Here he improved again and as time went on he began to be able to carry on a little practice.

Birth of Sanatorium Idea

In 1882, he read in the English *Practitioner* an article giving an account of Brehmer's Sanatorium in Silesia. He conceived the idea of building a similar institution in this country. His health was bad, he was a long way from a

railroad station and was treating a disease almost universally regarded as fatal. In spite of these facts, his wealthy friends provided funds and, in 1885, the doors of his sanatorium at Saranac Lake, New York, opened with a capacity of two patients. As time passed, more friends came to the rescue and the sanatorium gradually grew. At present, while not large, it is America's outstanding sanatorium from the standpoint of diagnosis, treatment and scientific contribution.

"The little red cottage," the first of the sanatorium buildings.

While this sanatorium was not the first institution for the treatment of tuberculosis in this country, it was placed on such a firm scientific basis that Dr. Trudeau is conceded the place of pioneer in the modern treatment of tuberculosis in America. He did excellent experimental as well as diagnostic and therapeutic work. Perhaps nothing in the whole field of American medicine in the last fifty years has done so much directly and indirectly to relieve suffering and to extend the years of usefulness of so many people as the principles that Dr. Trudeau laid down at Saranac Lake.

Dr. Trudeau contributed extensively to the medical literature and not one of the many scientific statements made by him has ever been proved to be incorrect. Few physicians have had greater opportunity to make money, but Dr. Trudeau placed study, discovery and service far above material reward.

It was he who had such a marvelous memory that he did not need to take notes on paper; he examined his patients so frequently and with such personal interest that he carried in his mind their physical conditions at all times.

It was he who did the first experimental work in tuberculosis in this country, thus making valuable contribution to our knowledge of the disease.

It was he who opened the first laboratory for the study of tuberculosis in America, in which large numbers of physicians and laboratory workers have been well instructed.

It was he who first grasped the modern principle of tuberculosis immunity.

It was he who wrote an autobiography that has inspired and encouraged thousands of tuberculous patients.

It was he who first stained and visualized the tubercle bacillus in this country and then willingly and freely instructed others.

It was he who through fairness, perseverance, imagination and optimism built that pioneer sanatorium, which has developed a capacity of approximately 160, has treated more than 6,500 patients, and today stands in the front rank of such institutions of the world, not only from the standpoint of treatment but also from the standpoint of scientific production.

This man, who through all the years was accomplishing such wonderful achievements, was suffering from tuberculosis and at times experiencing the deepest of human sorrow. He practiced medicine not for financial remuneration alone, but he constantly placed study and service far above material reward.

Your CITY *and Your* HEALTH

By
W. W. Bauer

III.
Sanitation and Education

A clever health stunt for teaching children about tuberculosis and general health is put on with the aid of the state tuberculosis association. Most communities can get help through the same source.

IN TWO previous articles, what your community ought to be doing for you in the way of child welfare and contagious disease control has been considered. These subjects came first because they are most important, although they have not always been given the first place. In fact, many persons today still look on their city health department only as a place to report when garbage is not collected or the ashes are allowed to accumulate. They can scarcely be blamed, for only recently have health departments themselves recognized their larger sphere of action.

More than a City Broom Squad

A first class health department nowadays is much more than a municipal broom squad, as is shown by the experience of almost 200 American cities studied by the American Public Health Association. If the health department is to function effectively, the newer scope of its interests must be understood; the people whom it is organized to serve will not make the most of their opportunities unless they have a clear idea of what they ought to expect. On the other hand, if any given health department has not seen or has failed to heed the signs of progress, there is no more effective means of galvanizing it into action than a crystallized popular demand for service.

Old Duties Are Still Important

This is to be a brief exposition of the larger aspects of the sanitary program that health departments ought to be putting into effect. This applies both to cities and rural areas, for the latter need health service just as much, and many have provided it through successful county health units.

Merely because larger fields are opening up, the older duties need not be neglected. You should still look, as you have looked, to your health department for general sanitary supervision and the elimination of nuisances. The unsightly ash pile, the neglected dumping ground, the fly-breeding garbage barrel, the water-logged cellar, the uncleaned catch-basin, the littered yards, are still responsibilities of the sanitary inspector, and you are right in expecting that he will attend to them.

But in this expectation, you should not regard these things as great menaces to health. They are undesirable and offensive and should not be tolerated, but they should be eliminated on these grounds and these only. They are not as dangerous to the health of the community as has been generally believed, nor as many other factors in our modern community organizations.

Safe Water and Adequate Sewage Disposal

One of the sanitary problems of great consequence to which your health department should be giving attention is that of sewage disposal and procurement of a safe and pleasant water supply. In this the health department can do much in an educational way, though it cannot actually build the engineering works that are needed to accomplish these ends, because it cannot appropriate money. You should expect that your health department will have definite knowledge of the situation with respect to your sewage disposal and water supply and should furnish that knowledge to the officials and the public without waiting to be asked for it.

These two problems are really one, because most cities are likely to dispose of their sewage into the same natural body of water that furnishes the water supply. Such a situation creates a nuisance and a menace to health, especially as regards typhoid fever and the so-called summer complaint of infants, which are spread through polluted water. Your health department ought to stand for purification of sewage before it is dumped into a river or lake and for filtration of water before it is served to your home. If it does this, and if other officials fail to heed its warnings, then it should be supported by public opinion.

Of course, if the water supply of the city is artesian or from sources known to be pure, then the filtration is not necessary, but you should look to your health department for daily examinations of the water supply to know that it is pure and not leave that important matter in the realm of conjecture. In rural areas, examination of wells, advice as to how to protect them, and supervision of disposal of excreta constitute part of the duty of health officials.

The days of the milk can and dipper are passing. Many of you can remember when the odor of the barnyard was regarded as healthful, and the milkman came to the door with a 5 gallon can from which he ladled milk with a dipper, which hung outside the can between calls and gathered dust and flies. Many of you boiled your milk then, which is one of the reasons why insanitary practices in milk handling were not more disastrous than proved to be the case.

Today you get your milk in clean bottles and it is pasteurized. In justice to the dairy industry it should be said that it has contributed largely, especially in later years, to this improvement. Yet the responsibility for maintaining the cleanliness of your milk supply is upon the health officials, and you have a right to expect them to take it. They should make farm inspections to assure clean production of milk, since this food is one that can never be rendered satisfactory once it is contaminated. They should also supervise the dairies closely. Just what detailed duties they have in these places will not interest the householder, but whether these duties are well or badly performed or not performed at all should be a matter of vital concern to every mother.

It is better if the health department frankly omits these functions and everybody knows it, than if it performs them in a negligent manner, though obviously this is shirking a responsibility. Part of the necessary supervision of the milk supply is regular examination of samples bought in the open market without warning to the producer or vendor.

Inspection of Eating Places

Inspection of places in which food or drink is produced, handled, served or offered for sale is another sanitary responsibility of the health department. Such places include grocery stores, markets, restaurants, lunchrooms, tea rooms, cafeterias, soda fountains and soft drink parlors, as well as slaughter houses, bakeries and factories. The object of such inspection is to see that food comes to you clean and free from the danger of disease.

This is most necessary when you are served food to be eaten on the premises on which it is sold and from utensils furnished there. The cleanliness of these, especially cups, glasses, forks and spoons, because they are touched by the mouth, is of the greatest interest to you. In many places the licensing of such establishments is in the hands of the state health officials, a policy that seems to me fallacious because the supervision is so distant and is likely to be spread out so thin as to be almost negligible. If there are no legal obstacles, the city should take jurisdiction and see that you are protected. This is of growing importance because of the greater frequency with which people are eating away from home, either on trips or merely for the sake of relief to the housewife.

One of the features of supervision of food handling places is attention to the health of the food handlers—cooks, waiters, kitchen help. This is accomplished in some cities by annual physical examinations, making a health certificate a prerequisite for employment. This is a new development and has not taken hold extensively; in fact, it is experimental. If your city is watching the results of this policy as applied elsewhere, you need not be dissatisfied because health officials have not adopted it. But you

will do well to watch and see that they do not fall too far behind.

The laboratory of the health department is one of the unseen units that may serve you remarkably well. It is not exactly part of the sanitation program, but it serves that program and all the others. Possibly it serves the sanitation interests most, through its examinations of milk and water at regular intervals and through the detection of adulterants in food stuffs. The laboratory should also be ready to assist physicians in the diagnosis of certain of the contagious diseases, notably diphtheria, spinal meningitis, typhoid fever, the venereal diseases and tuberculosis. This department need not be owned by the city. It may be supplied by contract with a commercial laboratory or the city may use the state laboratory if conveniently located for good service. This is one of the features of your health service of which ordinarily you hear little. Its work is not spectacular, but there is no department which is more essential or which more enhances the efficiency of the other branches, especially nursing and food inspection.

Cancer and Heart Disease Control

In the latest revision of the scoring standards for city health work there have been added two items. One is heart disease and the other is cancer control, these being two leading and increasing causes of death. Not much is being done anywhere along these lines, except in a few favored centers in large cities. The elements of a satisfactory campaign against cancer and heart disease include: first, statistical study to secure a sound basis of knowledge; second, adequate medical, hospital and nursing facilities, and, third, the spread of information so that the public may understand the need for frequent physical examinations for the early discovery and treatment of these conditions.

Vital Records Should Be on File

In closing this series of discussions concerning what you have a right to expect of the up-to-date health department, a few words should be said about the department as a whole. Each of its main duties has been considered, but it is perfectly obvious that unless these are molded into a well-balanced whole they are not going to give the best of which they are capable. This coordination is the function of the main office of the health department. With this office you will make most of your contacts, either in person, by mail or by telephone. It is your health department, "yours for health" to quote the motto of the department with which I am connected.

In this office you should find the birth records of your children, the record of the contagious diseases you have had, of when and where you were vaccinated or had diphtheria prevention—and that isn't all. You should find maps and charts telling you about the health of your city. There should be a file of information on health,

DEATHS of CHILDREN
INFECTED MILK IS THE CHIEF CAUSE OF GLANDULAR TUBERCULOSIS SURGICAL
"LISTENING" (AUSCULTATION)
A HEALTH EXAMINATION REVEALS POINTS AT WHICH DISEASE MAY ATTACK

Putting the health message across through a show window. The physical examination of school children here demonstrated was made a regular part of this community's health program soon afterward.

so you can call up or come in and find out what you want to know about health topics.

From this office should come the weekly or monthly bulletins that keep you informed as to progress. If you are going on a foreign trip, you should be able to find there the bulletins of the United States Public Health Service, which contain the latest available reports of epidemic diseases from all over the world, received through the League of Nations. You should be able to call on your health officer to give health talks to local groups. Many health officers may now be heard in your own easy chair by the radio. The health officer should make available pamphlets on health topics, either by preparing them and publishing them himself or securing them from reliable sources.

Two Sides to the Obligation

There are two sides to every obligation. It has been said that a good bargain is one from which both participants profit. The obligations that the modern science of public health has laid on health departments connote certain corresponding duties that may be expected of the citizen. Unless these are discharged in a cooperative spirit, the best health department cannot function to the greatest good of the community.

If you have a competent health officer, his leadership should be followed; if you have not, the remedy is obvious. Let us assume that you have. You should not ask special consideration in matters of quarantine but rather should accept necessary interference with your individual convenience in a cheerful mood, considering that you are doing something for the good of your city. You should respond to appeals for cooperation in situations in which the law does not govern. You should not demand service that the health department ought not to give, such as medical treatment, which is the responsibility of the head of the family to procure or of the city charities if the family is unable to do so. You should not condemn the health department when it fails to accomplish some aim it has set, if it has made an honest effort and has been defeated through circumstances beyond its control.

You should not accept every bit of hearsay that comes your way about the inefficiency or partiality or unfairness or vindictiveness of your health department. If these things exist, it goes without saying that they should be eliminated, but many of the reports you hear may be due to irritation on the part of persons who have had to be coerced because they would not cooperate. The man who has been arrested for selling watered milk or hamburger loaded with preservatives is frequently lacking in brotherly love for his prosecutor.

Above all, you should try to get the community point of view. I knew a sanitary officer in a large health department who was treated abusively by an unreasonable woman who resented being quarantined. She ended her tirade by declaring that he was a public servant and that she was one of those who paid his salary.

"Madam," he replied, taking a dime out of his pocket, "I'll give you your money back."

This officer was disciplined for insolence, as he should have been. His point was well taken none the less. Any individual taxpayer is and should be of less importance to the health department than the community at large. If our growing communities in all their complexity of organization are to exist, we must learn to live together and to adjust ourselves to the greater good of the greater number. In no civic matters is this more important than in those pertaining to the public health.

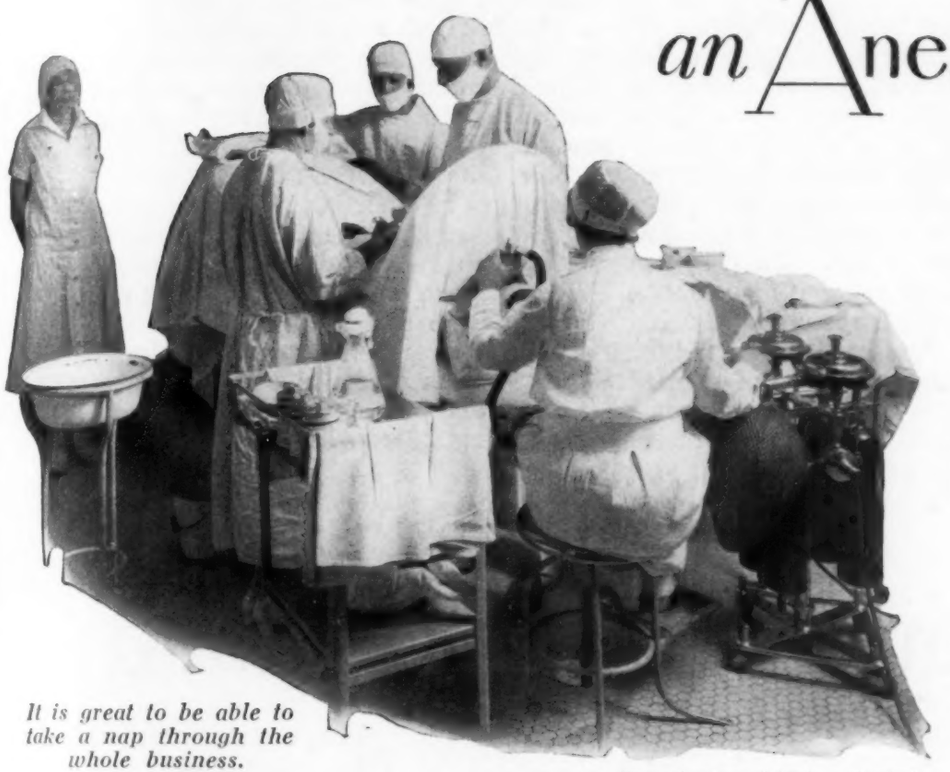
You Get What You Pay For

Finally, every citizen should know that health service costs money. The citizens pay it in taxes or contributions to volunteer organizations and are entitled to their money's worth, but not any more. You cannot buy a one dollar health service for sixty-nine cents any more than you can buy one dollar's worth of anything else for that price. If you are spending one dollar per person per year in your city, that is the amount of health service you ought to get. If you are not satisfied with it, the first thing to do is to find out if you are getting what you are paying for. If you are not, you are entitled to a change in policy, which may mean a change in personnel. If you are getting all you are paying for and are still dissatisfied, then you must be willing to pay more. The health service pocket is only as deep as the people make it.

Your health officer has a big job. If you have the right man in the right place, he is entitled to your confidence and your support. You in return are entitled to have the protections outlined in these articles.

Why Fear an Anesthetic?

By Barbara H. Davis



It is great to be able to take a nap through the whole business.

Photo Courtesy of Modern Hospital

NOTHING from Christian science to having the constitution of the proverbial ox can prevent nearly every one of us from having to take an anesthetic sooner or later. Nor is there immunity because of already having taken one. Now why is it that the following statements and questions fill the ears of doctors and nurses?

"It's not the operation I dread, but the anesthetic," heads the list. Then comes, "Please don't believe a word I say while I'm under that ether"; and then a long list of "How do you know when I'm asleep?" "Don't use the knife until you're sure I won't feel it," "Don't let me fall off the table," "Do you think I'll wake up all right?" and "Please don't strangle me."

These are the things heard daily by anesthetists, and there are many more, but since all of them seem to illustrate the same lack of knowledge and demonstrate the same fear, we can work on these samples.

First, wouldn't you dread the operation more if you had to feel the pain, know what was going on, hear and see—instead of taking a nap through the whole business? Next, a person says nothing while he is under ether. Perhaps one in fifty will mumble something when he is going to sleep, and a few will talk at random while they are waking. The nurse sitting with a reacting patient knows full well that what is heard is merely the jag, and pays it no more attention than she pays to the talk of a crazy person.

As a blanket answer to the next group of questions, I may state that there is no such thing as doubt, in anesthesia, and that no doctor who is worthy of trust will have an anesthetist who is not also worthy. Think of the surgeon's reputation, should his patient move while he was operating—to say nothing of his temper. I know of not one single surgeon, good or bad, who cares to practice vivisection. Even a vivid imagination fails to grant a picture of patients slipping off tables or of gagging and strangling parties.

Here are some reasons for the prevalent fear. "Do you know, they say Belle's mother-in-law sat with her after her operation, and now she won't speak to her, she cursed so when she was coming out from under the anesthetic." "I just know I was yelling 'John' at the top of my lungs all the time I was asleep. I remember doing it, though the nurses all say I didn't. What do you suppose Henry will do to me if he finds it out?"

"Betcha I gave those orderlies a good fight. Think I'd let any slip of a girl get me down on a table and put me to sleep when she got good and ready? I guess not, so long as I have my two fists!" "My dear, they say Gertie knew absolutely everything that went on during her operation."

How we do love speaking of operations. It is merely human to add or change a bit when the retelling becomes tiresome, and quite excusable always to make a good story just a little better.

Here is the truth of the matter. The art of anesthesia is taught as a separate and particular subject, and a certificate is given the student at the completion of the course. This course covers all anesthetics, all types of apparatus, every method of giving the former and of using the latter; normal and abnormal cases and how best to handle them; the importance of applied psychology in obtaining a sympathetic cooperation and in instilling confidence, and intensive daily study under anesthetists of extensive experience.

Certificate obtained, the anesthetist's success depends on her ability to please and satisfy the surgeons. How long would she last if a patient died or even if one came near it? There are too many good anesthetists for any doctor or any hospital to run risks of losing out on that vitally important thing—reputation—whether there is actual proof or vague doubt or even a suspicion that the anesthetist is not up to the mark.

Next time you drink a cocktail, remember that taking gas or ether is safer. The administrator knows more about the ingredients and also you will have a trained observer of your reactions. When you go up in a plane, think of the contrast; a safe soft landing in bed guaranteed, against a hazard. Why, it's safer (and the mortality rates prove it) to take an anesthetic than it is to climb into your own automobile and go for a ride!

Various Vegetable Salads

By Elizabeth Shaffer

WITH dietitians growing almost hourly more insistent as to the necessity of vegetables, and many of them, and with my family lagging far behind the dietitians in enthusiasm, I find myself turning more and more often to the vegetable salad as a solution to my problem.

As one usually introduces several vegetables in the same salad, this method of serving is a means of gradually getting before the family's attention vegetables against which they have been prejudiced. Besides, mixed vegetable salads are at home in many types of meal. A small portion is excellent with a hearty dinner, while a large portion of a mixed vegetable salad containing some of the more nutritious vegetables may well serve as the mainstay of the summer supper or luncheon, if it is accompanied by a bit of cheese, crisp rolls and a dessert.

Cheese as a Salad Ingredient

Cheese, incidentally, is a good ingredient to use in many vegetable salads, either diced fine and mixed with the vegetables or grated and sprinkled over the top.

Peas are a good vegetable to include in a salad that is to serve as a supper main dish, as they are valuable for both calories and vitamins. The combination of diced cooked carrots and cooked peas, often used as a creamed vegetable, is equally successful as a salad. The vegetables may be mixed with either French dressing or mayonnaise but are really the most successful if they are marinated in French dressing a while, with mayonnaise added as a topping at serving time.

A New Potato Salad

Diced boiled potatoes are, of course, an old standby for a supper salad. A salad that uses them in combination with many other vegetables is less nutritious but excellent for variety. Try using one and one half cups of diced boiled potatoes, one half cup of finely cut celery, one half cup of shredded cabbage, one half cup of diced boiled beets, one half cup of diced cucumbers, and one and one half cups of sliced red radishes. Mix these vegetables with a cooked salad dressing, to which sour cream or whipped cream has been added, or with French dressing if you prefer. In any case serve the salad icy cold on a bed of salad greens.

Well drained cooked lima beans and diced boiled potatoes in equal quantities, with shredded celery and chopped onion added in small quantities and a little shredded green pepper for color, make a well balanced salad. It may be served with any desired dressing.

Diced boiled potatoes, peas and chopped celery, mixed with mayonnaise and garnished with sliced hard boiled eggs, make a fairly hearty salad. Use about as much mixed celery and peas as you have potatoes. The vegetables are improved if marinated a while in French dressing before they are mixed with mayonnaise at serving time.

Diced boiled potatoes combined with string beans, cooked and cut in half-inch lengths, and cooked peas are good mixed with French dressing. For one cup of diced potatoes, use about one half cup each of the other vegetables. After the vegetables have been mixed with the French dressing, mayonnaise may be used on top if desired. Peas and diced boiled potatoes may be used with chopped green pepper or celery.

Cauliflower flowerets and asparagus tips are an unusually good combination if a little grated Roquefort cheese is added to the French dressing served with them. These two vegetables should be mixed gently so as not to break them.

Asparagus tips are delicious used as a combination garnish and ingredient for a salad in which carrots and peas are used. Equal quantities of diced cooked carrots and peas, which have been marinated in French dressing, are placed in little mounds on lettuce leaves. Four asparagus tips, also previously marinated, are placed around each mound. The mounds of carrots and peas are topped with mayonnaise.

In combinations in which cabbage is the main vegetable it is a good idea to plan to add some ingredient that furnishes a touch of color—green pepper, beets or carrots are nearly always convenient additions, and if these fail there is the omnipresent pimento.

Diced beets may be added to shredded cabbage in some such proportion as one half cup of beets to one cup of shredded cabbage, with one tablespoonful of chopped pickle and one teaspoonful of horseradish added for piquancy. This is combined with mayonnaise.

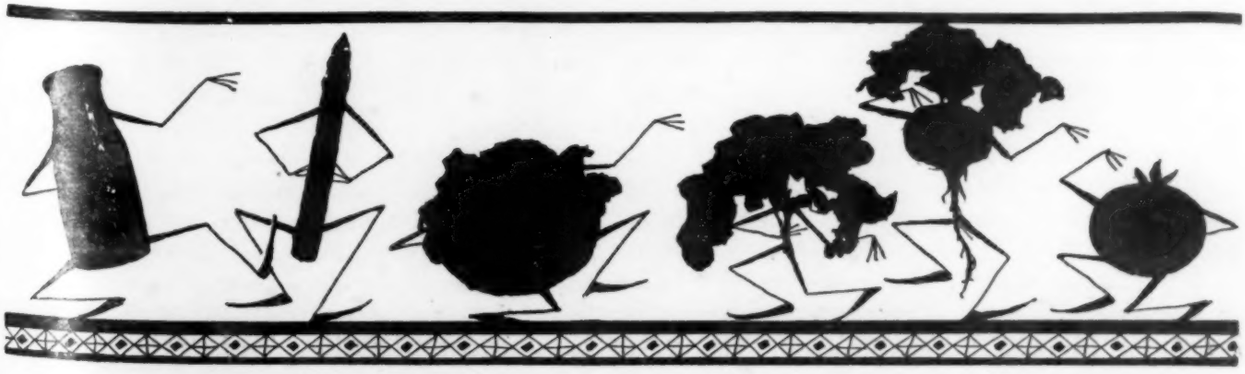
Diced cucumber may be combined with cabbage in the same proportion as beets. A few chopped nuts or olives make a tasty addition to this salad, which is served with mayonnaise or a cooked dressing mixed with whipped cream.

Finely shredded cabbage and cooked carrots cut in tiny strips make a good salad to serve with French dressing. Use about half as much carrot as cabbage.

Approximately equal quantities of shredded cabbage, diced celery, diced boiled potatoes, diced cooked beets and cooked carrot strips make a salad that reaches a high point in variation. Marinate the vegetables in French dressing and serve dotted with mayonnaise.

Finely chopped sweet green peppers and red radishes combined with shredded lettuce and mixed with French dressing make a good light salad for dinner service. A little chopped green onion will improve this salad.

A good sized, well colored tomato hollowed out and filled with some such vegetable combination as peas and celery or chopped green pepper and cucumber always furnishes an attractive salad. A little less usual is a filling of asparagus tips covered with paprika-sprinkled mayonnaise. For a change in greens on which to put tomato, watercress is refreshing.



HYGEIA
THE HEALTH MAGAZINE
Published by the American Medical Association
535 North Dearborn Street, Chicago

Plain Facts about Health and Disease

DIGESTION AND THE EMOTIONS

A RESTAURANT in one of our largest cities gained repute and a considerable following not only for the excellence of its cuisine but also for the slogan in its announcements: "No Orchestral Din." Long before William Beaumont had the opportunity to look into the stomach of Alexis St. Martin and to study the process of digestion, the ancient Greek physicians had noted the necessity for a certain amount of esthetic appreciation associated with the taking of food. These studies were, however, not nearly so scientific as modern observations. It is now definitely established that profound emotion, such as intense excitement, fear or anger and even fatigue, is unfavorable to appetite and digestion. Authorities advise calm, contentment and pleasant surroundings during and after a meal. Indeed, Palfrey is authority for the statement that observation by the x-ray of the digestions of animals shows that in excitement all movements of the digestive tract cease, and reappear as the animal becomes calm.

Many Americans eat when they are fatigued. This is the worst possible form of body abuse since fatigued tissues need primarily a chance to recuperate and it is not advisable at such times to throw in quantities of food. A tired horse should not be whipped. Recently Dr. Alvarez has given special consideration to the whole problem of the relation of the emotions to digestion. He goes back wisely to the old proverb: "Better is a dry morsel and quietness therewith than a house full of feasting with strife." The worst cases of indigestion, "nervous stomach," vomiting, loss of weight, constipation and diarrhea are those associated with mental and particularly marital situations that seem to have no solution. Alvarez says: "Particularly difficult to deal with are the women who cannot make up their minds about getting a divorce, and those who lead a cat-and-dog existence with their husbands, but who are chained to them by love for their children." For these people the best suggestion that can be made is either that they get rid of the mental difficulty that is associated with the gastrointestinal disturbance or make up their minds to make the best of the indigestion while fighting it out along the chosen lines if it takes the rest of a lifetime.

THE DOCTOR AND ADVERTISING

MR. BRUCE BARTON, widely known for his "Nobody Knows" books, is the head of a well known advertising agency. For some years he has been committed to the belief that the medical profession ought to be selling its knowledge and skill to the public by the advertising route. He has not waged an active campaign toward this end, but the view, not entirely original with him, has had the support of numerous organs of publicity, including for example the magazines of the publishing industry known as *Printer's Ink* and *Editor and Publisher,* and such vast newspaper enterprises as are represented by the Chicago *Tribune* and its subsidiaries. In brief, the entrance of commercial considerations into the promotion of practically all other professions and trades has now developed to the point at which a guerilla warfare is being made against the staunch old fort of medical ethics.

Good advertising can sell anything—indeed, not infrequently it does. Quack doctors, particularly in the field of venereal disease, thrived in the past through the space they used in newspapers to exploit their wares. The public carelessly does not attempt to distinguish between a good doctor and a poor one under most

circumstances. When doctors exploit themselves through uncontrolled newspaper advertising, the difficulty becomes even greater. Advertising of medical service places a premium on the noisiest, most flagrant claims. The best physicians have more than they can do in most instances and would gain nothing by advertising. The tendency obviously would be to direct the person needing help away from those best able to serve him.

A feature of modern civilization in the distribution of merchandise has been the promotion of good will through advertising. The advertising agencies, which have been particularly prominent in this field, urge the medical profession to advertise as a group, warning people away from cultists, educating them as to the advantages of scientific medicine and the dangers of one-track systems of healing. They point out that the cultist groups, including chiropractors, osteopaths, magnetic belt promoters and even Christian scientists, take space in the newspapers to promote their wares, the latter in the form of announcements of special services, and that it is the duty of the medical profession to enter into competitive advertising with these groups.

The fallacy of an argument of this sort should be obvious to any one. If the advertising of these cults is unscientific and against the best interests of the community, the cure for the situation is for the newspapers to refuse their advertising, not for the medical profession to combat the advertising by buying space in opposition. In other words, the medical profession need not give up its ethical principles; in matters of promotion the cultists should acquire some.

The whole situation has been brought prominently into the foreground of public thought of late because of the confusion of several issues in the case of a Chicago physician. The physician and the institution involved have already received so much free advertising that the mention of their names here will be unnecessary. Indeed, the institution has apparently benefited so greatly that it has discontinued its advertising for more than a month.

Experience has shown that the only safeguard to the work of the general practitioner in treating the sick is the establishment of standards for the control of practice which will prevent the hospital, institute, group of physicians or corporation entering the practice of medicine from the use of any method for promotion that the general practitioner himself cannot use. Down through the centuries, the medical profession has been known for the vast amount of charitable work that it has performed. Physicians do not turn away the sick and the needy. Indeed, several newspapers have remarked that if every one would pay his doctor bill the physicians would be able to lower their fees one half because their incomes would be twice as great.

Every survey of medical practice that has been made in recent years has deplored the passing of the general practitioner and has urged changes in the methods of medical education and medical practice that would insure his continuance. But he as an individual cannot undertake to practice medicine in a community in which his patients are urged through full-page announcements in the press and through glaring posters placed in business establishments to hie themselves to institutions in which they are treated, not by doctors whose names are made known, but by salaried men working for a corporation in which the names of the directors are advertised to insure confidence. The spectacle of these directors sitting in booths listening to the secrets of the victims of gonorrhea and syphilis is a pathetic vision not yet afforded the populace.

The limitations of editorial discussion do not permit at this time a statement of the numerous reasons why the treatment of human disease by the same routine used in inoculating hogs against cholera is unsatisfactory. The last refuge of the human being in individualism is when he becomes sick and those who would mechanize the practice of medicine would take away even this refuge. The vast majority of competent clinicians feel that individualization of the patient must be maintained if medicine is to be practiced as both a science and an art. Indeed, the art of medicine is just as important as the science, in securing cure of the patient and maintenance of his mentality. The problems that have been here mentioned are today disturbing the sociologists, economists, physicians, psychologists; in fact, all who have the interest of mankind at heart. The public must know of these things if progress is to continue. They too must recognize that the commercialization and mechanization of medical practice will not be for the public good. In commercialization, advertising is the first step.

WHAT PEOPLE BELIEVE

THE minds of men are innately superstitious. From the earliest times human beings have attempted to treat disease by conjuring forth from the body the demons of ill health. Today archeologists find the skulls of ancient men with holes trephined in order to permit the escape of the evil spirits that were causing headaches. If a member of the tribe was seized with some internal pain, the priests burned incense and murmured charms to cause the demon to get out of the body.

As the minds of men developed, symbolism as an escape from reality developed simultaneously and with great intricacy. The basic conception of several cults in medicine has been the idea that the way to cure dog bite is to apply the hair of the dog that bit you. This idea, in the system known as homeopathy, was expressed as "similia similibus curantur." It was customary in ancient England to attempt to cure smallpox by putting red hangings in the room. Jaundice was cured by hanging a carrot in the basement; when the carrot dried the jaundice would disappear. There were constriction cures based on the idea that a ligature around the object, particularly a swelling or growth, would cause it to drop off. Every one knows about the superstitions that a buckeye carried in the back pocket will keep off rheumatism, that a string of amber beads will prevent goiter, that a bag of asafetida around the neck will keep off infectious disease.

In modern times many superstitions regarding disease have their basis in primitive magic or in symbolism, but others seem to arise from pure ignorance or from perversity. In many fields scientific medicine has established fact, but the ignorant or the credulous continue to hold to their ancient notions. Even a god-fearing people will resort to their ancient beliefs in magic when confronted with great pain or with a great fear, such as the fear of death. Among superstitious orthodox Jewish groups, not infrequently, when death seems imminent, a new name is given at a special service in the synagogue to the person dying, the idea being that when death calls he will be unable to locate the person because of the new name.

In the "American Credo" compiled by those American philosophers Messrs. Mencken and Nathan, in McKenzie's "The Infancy of Medicine," in Waterman's "The Story of Superstition" and in many similar works, some of the popular beliefs of mankind in relation to the control of disease have been assembled. Some of these beliefs are grounded in empiricism and others are simple notions with a mystical or a symbolic background.

Many persons believe that fish is a brain food and that those who eat a great deal of fish will be quick witted.

Some think that it is dangerous to sleep in the moonlight, because the moon controls lunacy and to let its rays fall on the pillow will cause one to become an idiot.

According to some persons the best way to get a cinder out of the eye is to rub the other eye; others think that blowing the nose on the side concerned will get the desired result more quickly.

In some localities headache is treated by pressing the roof of the mouth with the thumb.

For years the impression has prevailed that it is especially dangerous to scratch the foot or the finger with a rusty nail, because this will cause lockjaw.

In Indiana and in various other civilized states, madstones are sometimes used in an attempt to cure hydrophobia.

It is a common saying that the mother gives a tooth for every child.

Practically all grandmothers insist that the expectant mother must eat enough for two.

In England the oldest inhabitants insist that it is more healthful to drink tea than coffee.

In Arizona it is still generally believed that the drinking of two quarts of whisky will cure snake-bite.

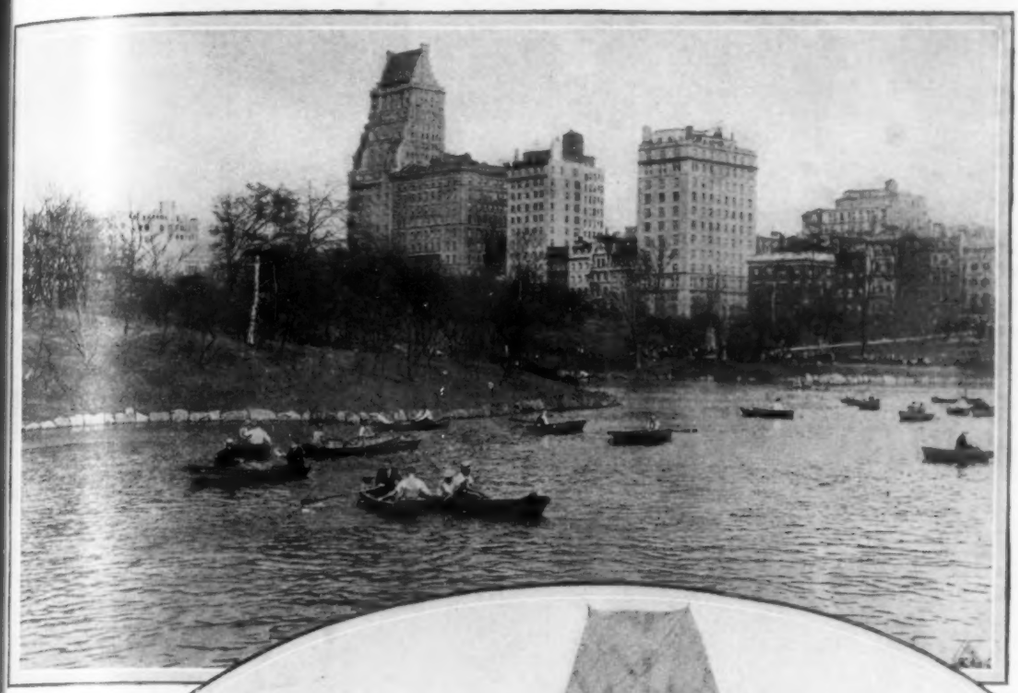
There are all sorts of technics for curing warts, the favorite method being to tie as many knots in a string as there are warts to be removed; then the string is buried at a cross roads by the light of the moon. The first person who passes gets the warts.

The idea that the expectant mother may mark her child is one of the most common of all impressions. Hence mothers desiring Adonises visit the art institutes and those wishing a Victor Herbert or a Paderewski keep the neighbors awake by playing the piano.

Every one has a special formula for curing a cold. These include hot toddy, soaking the feet in hot water, wearing light underwear all the year round, taking a cold bath every morning, and starvation.

There are innumerable cures for hiccups, one of the most common being to count slowly up to one hundred.

This list of notions and beliefs might be prolonged indefinitely. For the vast majority of them there is not the slightest basis in fact. Most of them represent either the simplest sort of autosuggestion, turning the mind away from the symptom to something else, or an attempt to transfer the trouble to somebody or something else. The minds of most men and women and their credulity have not changed greatly since the beginning of time. Merely the apparatus and the machinery upon which these minds may function have assumed new forms as times have changed.



SUMMER HEAT DRIVES NEW YORK crowds to parks and beaches.

THE BOYS WITH "white-winged birds" above were entrants in a kite day celebration in Los Angeles.

Photos by Pacific and Atlantic

THE LACROSSE SEASON brings out the team for a skirmish at the Naval Academy at Annapolis.

NINE ELEPHANTS A-BATHING GO. Youthful HYGEIA readers will be reminded of the elephant that lived by the river Squish.

Underwood and Underwood

NURSERY STUDENTS at Mills College, California, are going in for art. While they are painting modernistic landscapes, the warm sun's rays are doing some valuable brushwork of their own.

Underwood and Underwood

OXFORD VARSITY LADIES "EIGHT," which met Cambridge girls' crew in annual match.

Wide World

PRESIDENT HOOVER WILL INDULGE HIS FAVORITE SPORT AT THIS FISHING HOLE IN THE NEW SHENANDOAH NATIONAL PARK, VIRGINIA.

HEALTHY, NORMAL AMERICAN YOUTH is typified by Roland Jodoin of Burlington, Vt., a star in the American Legion junior baseball world series of 1928.

Photos by Pacific and Atlantic

SCHUMANN-HEINK, "THE LAST OF THE TITANS," entertains her grandchildren.

Wham! went the bat, and the ball flew to the farther end of the field.

The Seventh Game

By Blanche J. Dearborn

MIKEY MITCHELL sped across the gravel yard of the school in high speed. "Hey, fellows," he screamed, unable to wait until his natural voice could carry, "Have you heard the news? Jimmy Lawton's folks are moving out of town this week-end."

"What?" shrilled eight voices at once.

"Yep, they're all going to Dayton, the first of the month," amplified Mike, trying his best to look sad. "Jimmy just told me so."

"There's no use in your pulling a long face," said Ed Stone, captain of the Blue baseball team. "You know you are glad he's going. You think now your team will have a chance of winning the pennant."

"You needn't look at me as if I were to blame," said Mike righteously; "I didn't make his folks leave."

"The Reds will have to do something more than talk," growled Ted Reeves, "There are other fellows besides Jimmy Lawton that can bat a ball."

"Sure," said Mike with a wink, "and the next best batter in Bixby happens to be on our team." Then he hastily departed to where his news would be more welcome. A second later the ears of the Blues were offended by boisterous singing from the rival team.

Nine black crows,
Sat on the fence.
One flew away
Then there were eight.
Haw! Haw! Haw!

In deep disgust the Blues took themselves out of hearing. In Ted's back yard they settled down with gloomy looks.

"We haven't a ghost of a chance without Jimmy," said Ed Stone, kicking a pile of dirt, "and of course the Reds know it. That's why Mike was so glad to spread the news. Every time Jimmy went to bat we could count on a homer."

"Yeah," said Tom Baines, "and look at the substitutes that are left. Might as well take a baby out of kindergarten as one of them."

"Say," spoke up Rodney Sparks, "what about the new boy that came to school yesterday?"

"Hal Norton?" asked Ted, "I didn't notice him much; did he look all right?"

"Oh, nothing wonderful," said Rod, "but he can't be worse than the other subs, and there's a chance he might be better. If we don't get him the Reds may annex him."

"We might go and give him a look over," agreed Ed Stone. "What do you fellows say?"

"He lives just around the corner; it will take but a minute," said Rodney. "Come on, fellows," and he set the example by starting briskly down the street. When Ed Stone jumped up too, the others quickly followed.

As they neared the new boy's house, they saw him stretched out on the piazza reading a book.

"The cat's whiskers!" said Ted Reeves in disgust; "reading when it isn't raining. I'll bet he couldn't hit a watermelon."

"We might as well speak to him since we are here," said Rod and called out, "Hello, there!"

"Hello," said the new boy, getting rid of his book by the simple process of giving it a slide under a convenient chair. He then hastily scrambled to his feet and hurried out to meet the boys.

Ed Stone, as captain of the team, went straight to the point, "Ever play baseball?" he asked.

"Oh, some," said Hal modestly.

"Want to come over to the field and play a game with us?"

"Just as soon," said Hal.

"What are you best at?" asked Ted on the way over.

"Oh, I used to bat some," said Hal carelessly.

"It sounds good," said Tom skeptically, "but those that think they know the most usually turn out to be the worst lemons."

"Come on," said Ed, "I'll try you out with a few balls. Let's see how you like my pitching."

Ed drew back his arm and sent a slow easy ball straight over the plate. Wham! went the bat, and the ball flew to the farther end of the field.

"Beginner's luck," scoffed Tom, "and anyway it was an easy ball."

Ed wound up for a second ball and this time he put a teasing curve on it.

"Whack!" the bat and ball had met again, and Ted was still hunting for the second ball when the third whizzed over his head.

"Babe Ruth! Babe Ruth!" howled several of the boys together and began slapping the new boy so vigorously in congratulation that Ed interfered. "Say, are you trying to maul him so he can't play?" he asked.

Then followed much talking and laughing and the boys parted with the words, "Now remember, not a breath of this and Tuesday the Reds will get the surprise of their lives."

The next Tuesday was set for the first game of the series that the two teams of Bixby School always played. The Reds were from room 8 and the Blues from room 10. Every year the two rooms played a series of games and the team that won four games out of seven was awarded the banner for the next year.

On the afternoon of the game the Reds strutted onto the field with a pompous air, expecting a quick and easy victory. When all was over they walked off sadder and wiser boys, with the score of 9 to 3 in favor of the Blues. The jubilant Blues paraded the main street in triumph while the Reds went home singly by back ways.

In the next game the Reds put up a stiffer fight but again they lost 6 to 5, and the third followed with a hopeless slump, they scoring only 2 to the Blues' 11. For the first time in the record of Bixby one team had won three straight games.

"Win Saturday's game, and the banner is ours," said Ed on the way home.

"Whoop, whoop, hoo-ray for Saturday," yelled the boys together, but alas for plans. Saturday arrived with a dismal downpour and the game had to be postponed. Then followed two weeks of the rainiest weather the boys could ever remember and the ball field became a quagmire.

At last came two clear days in succession and both teams got out for practice. To the Blues' disappointment Hal seemed to be out of form. Time after time he missed.

"Guess my arm needs limbering up," he apologized, and he practiced throwing and

Hal slumped down on the seat and dropped his head into his hands.

catching but when he took the bat he failed to show any improvement. The game was set for the next day and Hal was worried. "Don't see what's got into me," he said.

"Oh, you'll be all right tomorrow," the other eight told him, but it was more with the hope of bolstering him up than because they actually believed it.

When the morrow came the whole school turned out for the game. The rumor of Hal's slowing down had been whispered around and every one was curious.

When Hal went to the bat for the first time a strange hush fell on the field. What was going to happen? Those nearest Hal could see him nervously shifting his fingers on the bat.

Whiz! went one ball straight over the plate. Hal struck and missed. "Strike one!" called the umpire.

The second ball cut the air with a whistle. Hal did not move until it was almost upon him; then he gave a jump and swung his bat at the same instant, missing the ball by several inches.

"Strike two!"

The third ball was a slow one with a mean curve, which failed to pass over the plate, but Hal fanned the air and the umpire bawled out, "St-ri-ke thre-ee!"

Hal threw down his bat and went to the bench in a puzzled silence. He slumped down on the seat and dropped his head into his hands. After a hurried consultation a substitute was hustled into Hal's place and he sat wrapped in a sweater, a picture of misery and shame.

The game ended 9 to 2 for the Reds and room 8 celebrated with drums and horns up and down the main street three times.

That night Ed Stone called the team together and Hal was not notified.

"He's sold out to the Reds," said Ed Stone bitterly.

"He's yellow," declared Gerry Gay. "Did you see him jump on that second ball?"

Rodney Parks was the only one that stood up for him. "I don't know what's happened," he said, "but I don't believe it's Hal's fault. He is doing the best he can and he feels worse than any of us."

"Tell that to the marines," muttered Ted sullenly, and the rest agreed with him.

It was decided that Hal should not be put into a game again unless he showed marked improvement at practice. Every day Hal went through the motions faithfully, but the result remained the same. Whereas at first a miss was a rare thing, now the order was reversed; a hit seemed a mistake.

Two more games were played, the Reds winning easily. The score now stood three each. The deciding game was to be played on Thursday of the next week.

On Monday night Hal and Rod were walking home from a scout meeting. "Say," said Rod suddenly, "look at that little cluster of stars. How faint they look compared to that brilliant one beside them!"

"Where?" said Hal, after a minute's search of the skies, "I can see the big bright star but I can't see any cluster of little ones."

"You can't?" exclaimed Rodney in surprise. Then he had a sudden idea. "Can you see the light in that little house way over on the hill?" he asked.

"Can you see the light in that little house way over the hill?" Rodney asked.

"What light?" asked Hal?

"No wonder you can't hit a ball," cried Rodney excitedly; "you can't half see."

"Do you think that is it?" asked Hal hopefully. "I know the boys think I'm not trying, but I just can't hit it."

"Of course you can't if you can't see it in time," said Rodney. "You come with me to my father tomorrow. He is an oculist. Don't say a word to the other fellows and perhaps we will have a surprise for them."

The next day Rodney took Hal to his father.

"Well, young man," said Dr. Parks, "what's this I hear about your not hitting the ball? Suppose you sit here and see how many lines you can read on that card?"

Hal read three lines and then he stopped.

"Go on," said Dr. Parks, "read the rest."

"I can't," said Hal. "It all runs in together."

"And you trying to play ball!" said Rodney's father. "No wonder you didn't have much success."

He made various tests and, two days later, Hal was fitted with a pair of glasses. "Now see what you can do," the doctor said.

"Why!" said Hal in surprise, "I can see even the last line on the chart, and you don't know how different the whole room looks. I didn't realize it before but nothing looked really distinct."

"You are near-sighted," said Dr. Parks, "and that is why you miss the ball. You couldn't see it in time to gage your strike."

"But what made it happen all at once?" asked Hal. "I hit the ball almost every time at first."

"I am going to be a mind reader," said Dr. Parks, "and tell you some things about your-

self. You like to read and indulge in it a great deal?"

"Yes, sir," said Hal in surprise. "I like reading next best to playing ball."

"You read lying on your stomach with your paper or book on the floor."

"Sometimes," admitted Hal.

"Very often," amended Dr. Parks.

"Well, perhaps," said Hal, with a sheepish grin.

"You read in bed at night."

Hal nodded.

"Those two rainy weeks, you didn't take much exercise, and you read a great deal."

"Yes, I guess I did," said Hal after a little thought, "but how did you know all this about me?"

"Because," said Dr. Parks, "near-sighted eyes happen in two ways. First, you may be born with them and that you can't help. Second, you cause it by not taking care of your eyes.

"In your case it is near the end of the school year and your eyes are naturally tired. Then in those two dark rainy weeks you read a great deal, with the result that you have become near-sighted, at least temporarily."

"But, father," asked Rodney eagerly, "can you fix Harold's eyes so he can see for the game?"

"Yes," said Dr. Parks; "I will give him glasses for that day, but this summer he is to rest his eyes and he may not have to wear glasses permanently."

Soon Hal was fitted with glasses and he and Rodney started eagerly for home.

"I can hardly wait to see if I can hit the ball," said Hal.

"Come over to my back yard and we will try it," said Rodney.

Rod started with a slow, easy ball and Hal hit it easily.

"Look out for this one," said Rod; "it's going to be a humdinger."

"Let it come," said Hal, and come it did, but Hal was there with the bat. Away went the ball, high and straight.

"Whoop, whoop, hoo-ray!" yelled both boys.

Hal scored one hundred on seven balls and the boys decided that was enough.

"Ow-ee-ee," shrilled Rodney in delight. "What a surprise for tomorrow! We won't tell any one but Ed; he'll have to know or he wouldn't let you play."

When the game started next day the grounds were packed. The first three rounds ended with the Reds 2 to the Blues' 0. The last half of the fourth inning came with three men on bases, and Ed motioned to Hal to take his place at the bat.

The Blues groaned and the Reds hurrahed, but Hal stood his ground waiting for the ball. Whiz! it came straight over the plate and wham! went the bat sending the ball high in the air. The outfielder jumped for it, but it traveled far out, falling in the high grass.

By the time the elusive ball was found the bases were empty and the Blues had four runs and a homer to their credit. From then on the groans and the hurrahs changed sides, and when the game ended the Blues had 9 and the Reds 4.

"Three cheers for the Blues!" called Mikey Mitchell and they were given with good spirit, for Bixby was noted for its good sportsmanship.

When the celebration was over the Blues turned eagerly to Hal, "What have you been trying to do," they asked, "kid us?"

For answer Hal pointed to his glasses, which in the excitement had gone unnoticed.

"Oh!" exclaimed the boys; "you couldn't see before."

"Exactly," said Rodney, "and he didn't know it. He was near-sighted and I took him to Dad. He fitted him out with glasses and once more he's Bixby's Babe Ruth."

"You are near-sighted," said Dr. Parks, "and that is why you missed the ball."

"Do you have to wear them all the time?" asked Ted anxiously. "Glasses are rather dangerous things on a ball field."

"I know that," said Hal, "but Dr. Parks said perhaps my eyes would be rested by fall and I wouldn't be near-sighted."

"Dad always says," said Rodney,

> " 'Those who are wise
> Take care of their eyes.' "

"Well, I may not be very wise," laughed Hal, but from now on I shall know enough to take care of my eyes."

A LETTER from AUSTRALIA

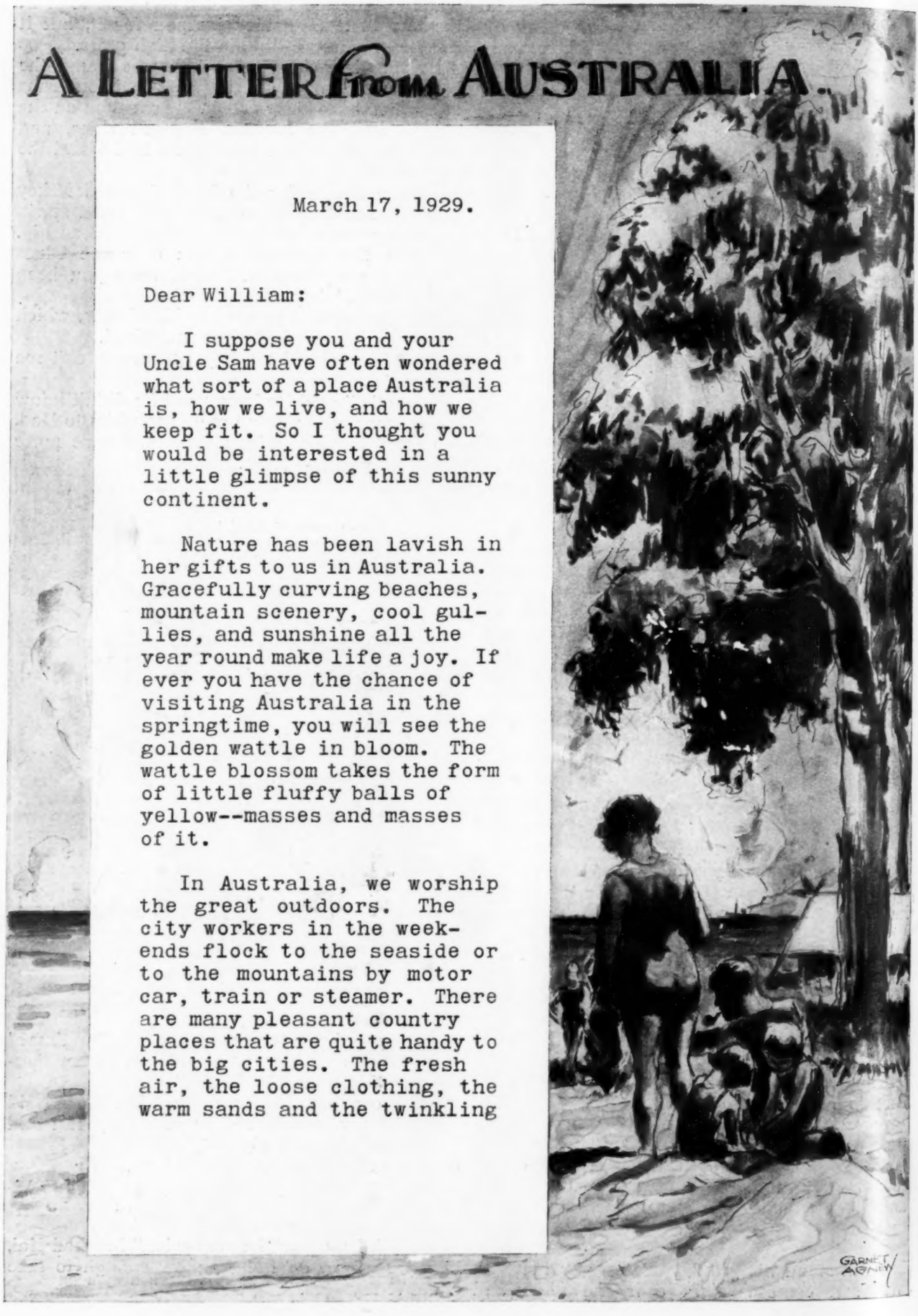
March 17, 1929.

Dear William:

I suppose you and your Uncle Sam have often wondered what sort of a place Australia is, how we live, and how we keep fit. So I thought you would be interested in a little glimpse of this sunny continent.

Nature has been lavish in her gifts to us in Australia. Gracefully curving beaches, mountain scenery, cool gullies, and sunshine all the year round make life a joy. If ever you have the chance of visiting Australia in the springtime, you will see the golden wattle in bloom. The wattle blossom takes the form of little fluffy balls of yellow--masses and masses of it.

In Australia, we worship the great outdoors. The city workers in the week-ends flock to the seaside or to the mountains by motor car, train or steamer. There are many pleasant country places that are quite handy to the big cities. The fresh air, the loose clothing, the warm sands and the twinkling



SUNSHINE and FRESH AIR

waters give the Australian that bronzed and lithe appearance for which he is famed.

A banjo tinkles through the darkness of the seaside scrub. A cheery crowd joins in the chorus with more enthusiasm than accuracy, but the mellow night air is kind. It is a seaside camp of happy folk who have spent all day surfing and sunning. Later, a profound silence is broken only by the scurry of a passing rabbit. The dreamless sleep that comes from a day of activity in the fresh air reigns supreme and undisturbed.

In the morning, the kookaburra's laughing song awakens the campers to the joyful realization of a dewy morn with the warm sun gilding the water. The breakfast fire sends up its lazy coils of smoke. The waves lap-lap on the beach and in the distance the eucalypt covered mountains are blue and misty, filling the air with that keen aroma that is found only in the Australian "bush."

So across the blue Pacific we send you our Australian call of greeting--Cooee,

BILL AND "BLUEY"

HEALTH *and the* SCHOOL

Edited by

J. Mace Andress

67 Clyde Street, Newtonville, Mass.

Graduating in Health—A New Goal

THIS is the commencement season. During the next few weeks schools, colleges and universities will be celebrating the end of the year by appropriate exercises. Graduation is the show day of our schools. Orators vie with each other in extolling the grandeur of the republic and in presenting their pet theories of education. Honors are conferred upon those who have been most successful in their scholastic pursuits. Then this great army of young men and women after a brief vacation will continue work in a higher institution of learning or go out to face the problems of a real world.

The bystander looks down at the sweet girl graduates and the vast area of caps and gowns and wonders. As a group they are fine, clean, splendid young people, but there are many tired faces. Many have stooped shoulders. Many have an expression in their eyes that suggests emotional struggles. One looks over the roll of honor. Some have won distinction. In what? Latin, mathematics, history, art and literature. But are these the things of greatest worth? What is education? What doth it profit a student if he gain this whole world of culture and fails to get that which is fundamental for successful living—health.

Lip-Service in Health

In a vision of future years the bystander thinks of another kind of graduation in which it will be announced from the platform by those in authority that all these pupils who are graduating in the formal studies are also graduating in health. All members of the class will have had every remediable defect removed; they will have been trained in wholesome living so that they eat the right kind of food, get enough sleep and rest, and they will have gained skill in meeting the problems of living from day to day. Everybody will have gained distinction but some will have achieved so much that they will win special honors in healthful living. When that day comes we shall have passed the age of lip-serving in health education.

Health Is Foremost Objective

Today the National Education Association affirms that health is one of the foremost objectives in education but there is little in the graduation of today that reflects that spirit. There are too many in every graduating class that might well say: "I am graduating today with honors in history. I have good marks in a number of other subjects and in some I just 'got by.' Incidentally I have acquired a hideous posture because I have insisted on wearing high heeled shoes. I have learned to smoke. I have a great liking for coffee, pickles and candy. Personally I detest spinach, squash, carrots and most substantial food. As to emotional problems I have many, but I have learned some tricks that seem to help me to get along. When I meet with a failure, which cuts deeply, I simply remember that I do not deserve it. My failure is due to physical illness, the cheating of other people or just bad luck. I seldom face my problems squarely. I try to get around them indirectly, and often I try to run away from them."

But let us not be pessimistic. Even now forces are being set at work which will vitalize commencements along the lines of health education. The time is not far distant when even those students who are graduating from college preparatory courses in our high schools and who are now often too busy in their study of ancient civilizations to learn to adjust themselves to present day problems will be required to attain certain standards of mental and physical hygiene.

The great central truths of life need to be built into the commencement program. One of those that should be most precious in our civilization is that nobody is well equipped to battle with the problems of either childhood, youth or adulthood unless he is in good health. An increasingly larger number of articles in educational magazines are beginning to recognize this fact. Several writers in recent months have stressed the idea of making health a feature of commencements.

Do you have anything to do with the management of schools and commencements? If so, perhaps you will set as one of your future goals—graduating in health.

A UNIQUE PUBLICATION

THE monthly mail brings many health publications to this department. All of them are helpful, but most of them are rather dull and uninteresting. They are so commonplace that they would appeal only to the imagination of those who had an unusually keen appreciation of health education.

An important exception is a health edition of the *Banning Grammar School,* a school newspaper from Banning, Calif. Banning is a town of only 3,000 population, but this publication would do credit to New York or Chicago. It is evidently a hustling place on the map of California. This number of the *Banning Grammar School* contains some interesting children's work—poems, jokes, drawings and projects—but other school publications have done as well.

The really unique feature is the advertising. The children solicited these advertisements and wrote them with the help of the teacher. Almost every bit of advertising tells a health message. Mr. Pierce, who runs a fruit store, presents his message under the caption "Cali-

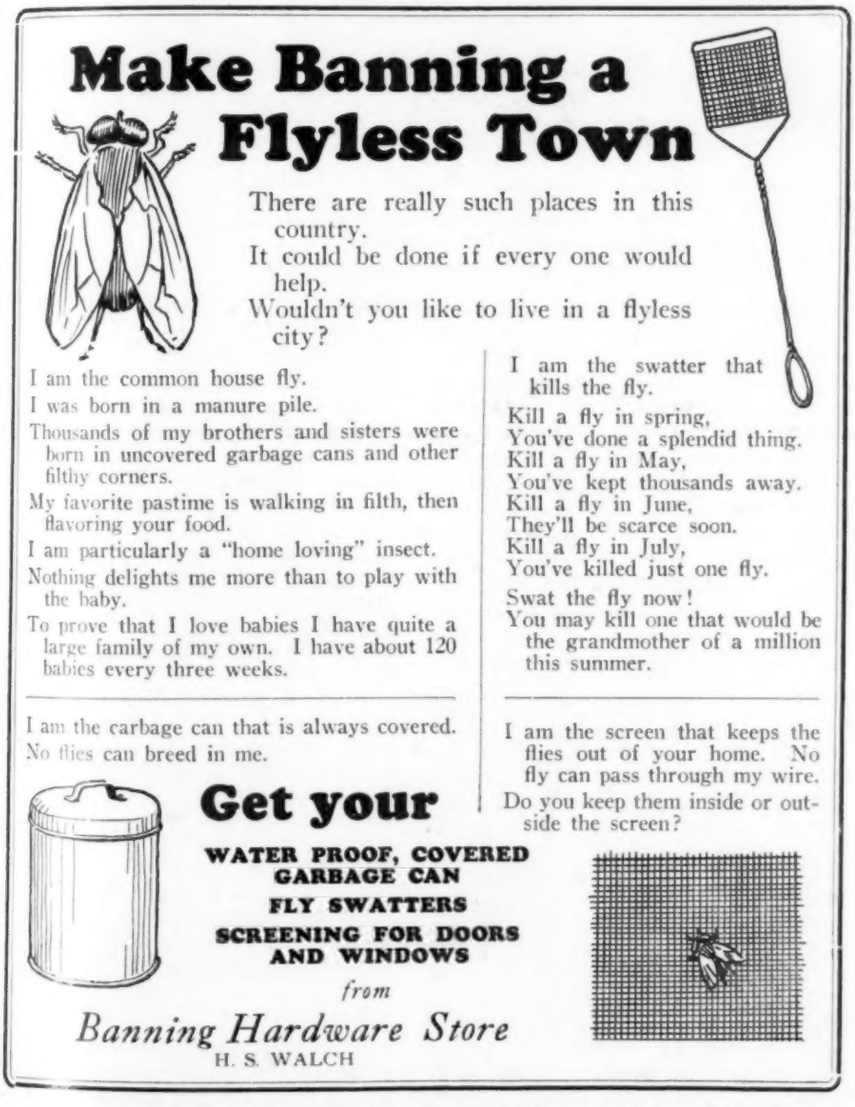
fornia's Candy Basket." There are some attractive illustrations evidently made by the children, and a bit of verse which runs as follows:

Said dapper Mr. Date to dried but sweet Miss Fig,
"Why is it Master Sammy is so healthy and so big?"
Said she, "Upon sweet goodies he never spends his money;
He loves raisins, figs and dates, maple sugar and pure honey."

The optician, plumber, market man, baker and builder all have their business advertised from a health point of view. Since these advertisements are so original we are reproducing one of them on this page. The schools were so deluged by requests for the health number of the *Banning Grammar School* both in and out of town that there are no copies left.

It is hard to estimate the educational value of such a project as this. It must have aroused tremendous interest on the part of the children. They had a chance to express their originality, an opportunity that is often sadly lacking in our schools. As everybody knows who attempts to promote health work, it is necessary but often difficult to arouse the interest of the community. This special health number of the school paper must have focused the attention of the entire town on health. That is important for health education, because the knowledge of the things we need to do to be healthy is relatively simple but we do need to develop interest and enthusiasm to translate ideas into action. The cooperation of the public is also needed to make health work a success.

Why not have a special number of your school publication devoted to health? If you do, you may get a valuable suggestion from the highly successful experience of this California grammar school.


Make Banning a Flyless Town
There are really such places in this country.
It could be done if every one would help.
Wouldn't you like to live in a flyless city?
I am the common house fly.
I was born in a manure pile.
Thousands of my brothers and sisters were born in uncovered garbage cans and other filthy corners.
My favorite pastime is walking in filth, then flavoring your food.
I am particularly a "home loving" insect.
Nothing delights me more than to play with the baby.
To prove that I love babies I have quite a large family of my own. I have about 120 babies every three weeks.
I am the swatter that kills the fly.
Kill a fly in spring,
You've done a splendid thing.
Kill a fly in May,
You've kept thousands away.
Kill a fly in June,
They'll be scarce soon.
Kill a fly in July,
You've killed just one fly.
Swat the fly now!
You may kill one that would be the grandmother of a million this summer.
I am the carbage can that is always covered.
No flies can breed in me.
I am the screen that keeps the flies out of your home. No fly can pass through my wire.
Do you keep them inside or outside the screen?
Get your
WATER PROOF, COVERED GARBAGE CAN
FLY SWATTERS
SCREENING FOR DOORS AND WINDOWS
from
Banning Hardware Store
H. S. WALCH

An advertisement from the "Banning Grammar School," a school publication in California. The pupils solicited the advertisements and wrote them with the teacher's help.

TEACHING HEALTH

(In this column will be published each month concrete examples of good health teaching. Teachers are invited to send in contributions not exceeding 600 words and preferably less to the editor of this department. Illustrations of the actual work of children will be welcomed. Contributions accepted will be paid for but no manuscripts will be returned.)

HOW I COMBINE HEALTH TEACHING WITH LUNCH PERIOD

IN MY grade 4A in Bloomfield, N. J., I am permitted to combine my health teaching with lunch period, and this is how I manage it.

Teachers all know the nuisance of recess lunches. Either children take lunches outdoors and run, jump or play some violent game while eating, or they stay in hot, stuffy basements and eat their food. Also they bring anything and everything in their lunch boxes.

In our school we have a fifteen minute lunch period preceding the outdoor recess. Lessons are dropped and the classroom takes on an atmosphere of relaxation. Several monitors quickly respond to duties, such as opening bottles of milk and passing it out, carefully handling and putting away straws, passing out clean sheets of paper to cover desks on which lunch is placed, and passing around a basket to collect peelings and paper. No child is allowed to finish his lunch or to eat anything on the play ground. This avoids the careless tossing of paper on the play ground and gives the children a chance to choose under some supervision the proper foods in the proper amounts.

While the children are eating lunch, the teacher or a good reader from the class reads a story from "Healthyland," the HYGEIA children's book. The pupils never tire of hearing stories from this delightful book.

When children first enter my room, I notice their choice of lunches. I see huge frosted pieces of cake, rich and frosted cookies, doughnuts, pie, three or four sandwiches, candy, and, least of all, fruit and milk.

I find that the most tactful way of suggesting a change is to read from "Healthyland" the story called "One Night in Jinny's Kitchen." The children are amused over the battle between good and bad foods and the point of the story sinks deeper than any formal health lesson could do. I marvel at the change in lunches. Soon I begin to see apples, oranges, more milk, and a dainty lettuce sandwich or whole wheat bread sandwiches wrapped in waxed paper. I glance around and say, "Well, there seem

Underwood and Underwood

Children at the National Kindergarten and Elementary College, Evanston, Ill., are required to select their own luncheon menus, choosing foods for their vitamin and mineral content, discriminating between proteins, fats and carbohydrates and keeping within a certain cost. The menus the children make are presented to the class, where they are accepted, corrected or rejected according to whether they contain the right food elements.

to have been more than one fight among foods in the kitchen last night, and the good foods have won." Then I call attention to the pupils who have brought fruit and milk.

One day during lunch period we discuss the cost of a box of crackers and the cost of fruit and we discover that fruit is cheaper and much better for us. A bar of chocolate or a lollypop equals the price of a bottle of milk, or we find we can buy perhaps two oranges or two apples for the price of one box of crackers.

The lunch period health lesson also gives the teacher a chance to teach good table manners.

Besides food stories, "Healthyland" contains stories stressing rest, fresh air, sunshine, exercise, posture and cleanliness. The story of "The Elephant in the River Squish" proves most interesting and the serial story "Jimmy and Mr. Germ," which ran in HYGEIA for some time, makes profitable reading. The story of "Dotty and the Sneeze" creates much fun and yet the children are led to realize the importance of taking care of colds.

Sometimes I feel as if we teachers make better preachers than we do teachers. There are so many subjects to be taught that if we are not extremely careful health teaching turns out to be health preaching, and the children sit with rounded backs and moan at the thought of a hygiene, health or physiology lesson.

But all children enjoy stories, and I believe an interesting story, similar to those found in "Healthyland," accomplishes more in the end than teaching by any other method.

MILDRED F. SARGENT,
Bloomfield, N. J.

A BATTLE ROYAL!

THE National Dairy Council furnishes some excellent health masks, which most children enjoy coloring. Recently I secured enough Coffee Pot Masks and Milk Bottle Masks for my fifth grade gymnasium class of twenty boys. During our gymnasium period we worked out a duel between the Coffee Pot and the Milk Bottle, which was greatly enjoyed by the children of the entire school.

Masks were properly colored so that the Milk Bottle's cheeks and lips showed the rosy glow of health in contrast to Coffee Pot's sallow coloring. Each boy armed with a ruler for a sword took his place in his respective line. When the martial music started, two contending armies marched on stage from opposite entrances and formed two lines facing each other. Now, in rhythm to the music all swords were drawn, and each contestant topped his opponents sword threateningly. After this was repeated several times, the Coffee Pots made a daring thrust at the Milk Bottles. The Milk Bottles dodged successfully, and, of course, returned the thrust. Finally, after much thrusting and dodging, the Coffee Pots received their death blow and all fell to the ground while the Milk Bottles stood triumphant above them.

In my opinion this duel has real educational value, because it presents an idea that is certainly worth emphasizing. It can be developed in a surprisingly short time, because it appeals to the boys' own interest and it requires little material. The masks can be made easily if it is not possible to procure them from the Dairy Council.

MARIE A. ERNST,
Taussig Open Air School,
St. Louis, Mo.

Children who have the privilege of using a microscope have a chance to get a real thrill out of the wonders of science. Nerve cells and red corpuscles will have a different meaning after such observations.

NEW HEALTH BOOKS AND TEACHERS' MATERIALS

THE *Health Crusader* of the Massachusetts Tuberculosis League, published in Boston, under the able direction of Miss Jean Lattimer, educational secretary, is a helpful publication for teachers. Its four pages are filled monthly with projects and suggestions on the best methods of health teaching.

"HELPING Our Children Succeed in School"[1] is the general title of a series of letters to parents that is being issued by the U. S. Bureau of Education. Dr. Garry C. Myers, head of the division of parental education, Cleveland College, Western Reserve University, is the author.

Dr. Myers handles his subject with skill and suggests excellent methods of dealing with children in perplexing situations. Every school should have this complete set of leaflets. Teachers will find that Dr. Myers' suggestions will enable them to help parents. For example, what answer would you give a parent who asked, "What can I do with Mary? She is a dawdler." Dr. Myers' letter No. 3, will help you.

HEALTH classes that are using Dr. Jesse F. Williams' "Personal Hygiene Applied" will find invaluable a companion volume called "Topical Sources for Personal Hygiene Applied."[2] There is a well selected bibliography in the outline based on the chapters in "Personal Hygiene Applied." It is well worth having as a reference book.

ONE of the most attractive educational fields today is the junior high school. It has the advantage of being still largely experimental. Consequently the course of study is not as static as that of the senior high school. "Science and the Way to Health"[3] is one of the pioneer texts in health for junior high schools. Taking its cue from the tendency, so marked in junior high schools, to emphasize general science, it attempts to provide the student with the beginnings of a scientific background.

In the first chapter, the authors explain the meaning of science as contrasted with mere common sense, the growth of superstitions and the application of science to healthful living. The third chapter, entitled "Valiant Health Knights," presents the spirit and attitude of science in the lives and achievements of great scientists like Jenner, Reed and Pasteur. There is enough physiology in the text to give pupils a knowledge of the fundamental processes of the body. The illustrations have been chosen with care to further health teaching. Many of them invite observation, investigation and experiments.

A variety of the newer type of tests is appended to each chapter. The book emphasizes especially the necessity of the pupil's doing his work scientifically if he is to get the proper scientific attitude. A manual, "Experiments in Health," accompanies the text. The experiments listed may be performed in the ordinary classroom with homemade or inexpensive apparatus.

THE Metropolitan Life Insurance Company has just published an excellent health study[4] of the schools of Newton, Mass., which answers the need for definite and detailed descriptions of successful health programs. Ten years ago Newton undertook the development of a health education program in its elementary schools. Since that time the city has won such distinction in practical health teaching that it has attracted visitors from widely different parts of the country.

Surveys show that the children of Newton rank high as compared with other cities in health knowledge and habits. In the light of the emphasis these days on a formal curriculum it is interesting to note that Newton's achievements have been based primarily on health activities. The administrative problem has not been to impose a course of study but to find procedures that would work. Care has been taken that the gaining of information does not supplant the living experiences of the pupils. That procedure has been "practice, information, more practice."

Health education supervisors will want to study this publication with care before planning their work for next year.

PARTS of the health program for schools have been developing over a long period of time but it is only within the last quarter of a century that a health program as a standard part of education has come into existence. Within the last fifteen years this program has not only come into general use but has become so complex that the specialist in one field of health education may know comparatively little about the standards and developments in allied parts of the field.

Health education can function only as the general supervising officer, classroom teacher, health specialist and parent can cooperate effectively. It is therefore desirable that everybody engaged in promoting a health program should know not only the details of his own job but also the different aspects of the problem as they appear to other workers for child welfare.

Dr. Keene in his "Physical Welfare of the School Child"[5] has given us a practical text on the aims, content and methods of the complete school health program. Dr. Keene's training in physical education and medicine and his broad experience in health work in the public schools fit him admirably for this work. The book should serve as a valuable textbook for classes in health education in normal schools and colleges.

THE bureau of nutrition and health education of the University of Texas is to be congratulated on getting out these attractive lesson plans[6] for the grades. So many outlines for teachers are dead, and only the teacher of genius can get inspiration from their study. These plans are so well graded and so attractive that any teacher with the slightest interest in promoting healthful living would find great satisfaction in trying them out. The authors have reproduced in these pages some of the choice bits of health literature suitable for each grade.

There are also numerous score cards, projects and exercises designed to inculcate good health habits and test the classroom instruction.

The point of view in health education is so well stated on the second page of each outline that every teacher might well weigh it with care. It is stated tersely in these words:

> The success of health instruction depends on what the child *does* rather than what he *recites*, on the spirit with which he carries out his practice than on the acquisition of facts. Therefore, *emphasis* should be placed on *practice* and *attitudes* in order to make *knowledge function.*

The bureau of nutrition and health education lends lesson plans to Texas teachers. A deposit of 50 cents is required.

1. Parent Education Letters No. 1, 2, 3. U. S. Department of the Interior. Bureau of Education, 1929.
2. Topical Sources for Personal Hygiene Applied. By Jesse Feiring Williams, W. B. Saunders Company, Philadelphia, 1929.
3. By T. Mace Andress and Maud A. Brown, Ginn and Company, Boston. 1929
4. A School Health Study of Newton, Mass. Monograph No. 5. School Health Bureau, Welfare Division, Metropolitan Life Insurance Company, New York, 1929.
5. The Physical Welfare of the School Child. By Charles H. Keene. Houghton, Mifflin Company, Boston, 1929.
6. Health and Happiness Lesson Plans for Teachers, Grades I-VII. Booklet for each grade contains about 75 pages. Bureau of Nutrition and Health Education, Division of Extension, University of Texas, Austin, Texas.

New Books *on* Health

Reviewed

By

Morris Fishbein, M.D.

POPULAR MEDICAL HISTORY

DEVILS, DRUGS AND DOCTORS. By Howard W. Haggard, M.D. Pp. 405, with 150 illustrations. Price, $5. Harper and Brothers, New York, 1929.

THE STRUGGLE FOR HEALTH. By Richard H. Hoffman, M.D. Pp. 341. Price, $3.50. Horace Liveright, New York, 1929.

HERE are two attempts to furnish the layman interested in a study of medical progress with the history of man's battle against disease.

Dr. Haggard's book has been arranged according to the development of the individual, no doubt through a recognition of the fact that the history of the individual repeats the history of the race. Hence he begins his work with the story of obstetrics. He analyzes the methods of caring for mothers that existed in prehistoric times and that are now followed by savages. He traces the development of man's attitude toward women from the time when she was merely a chattel used for the continuity of the race to the present era of feminism. With this gradual change of point of view toward women there has come greater and greater attention to prenatal care and to scientific control of the birth process. The superstition and magic of the past have given way gradually to a study of the mechanism of childbirth, the introduction of obstetric forceps, the prevention of infection and the modern maternity hospital.

In the second section Dr. Haggard logically proceeds to the history of anesthesia, the greatest boon ever conferred by science on mankind. From the discovery of nitrous oxide to the use of ether, chloroform, ethylene, local anesthetics and the new Gwathmey technic for painless childbirth, Haggard carries the reader along with him in the story of man's struggle for relief from pain.

In succeeding sections of his work, Dr. Haggard provides a brief history of surgery, a story of the overcoming of plague and pestilence, an analysis of the development of quackery and faith healing, and finally a forecast of the future.

The illustrations are from plates taken from ancient medical works.

The book by Dr. Richard H. Hoffman is a compilation of the main facts of medical history, based on a score or more of easily available medical historical works.

The author makes occasional excursions into philosophic contemplation, but he is young and his philosophy is oftentimes confusing. Nevertheless he writes earnestly and he has a sincere interest in the history of medicine which promises much for his future efforts in this field.

It seems doubtful whether the majority of the public will read a medical historical work so extensive as this, especially since it does not provide the important facts in an easily available form and since its interest is not such as to hold the reader who wants something more than the bare facts. Somehow Dr. Hoffman has missed the romance of medical history and has failed to dramatize properly the conflict of man against disease.

Jacket cover of the Hoffman history of health progress.

PREVENTIVE MEDICINE AND PUBLIC HEALTH

Edited by Haven Emerson, M.D. Pp. 582 and 441. Price $20 per set. Thomas Nelson & Sons, New York, 1928.

IN THE field of popular health education there are innumerable volumes varying from the a b c for child students of physiology to such contributions as are represented by the two-volume Nelson's Preventive Medicine and Public Health which is the last word in fact material.

The volumes are edited by Dr. Haven Emerson, professor of public health administration in Columbia University, widely known for his work in the field of public health. Associated with him are other members of the staff of the De Lamar Institute of Public Health.

The individual essays have been prepared not only by these authorities but by some thirty-seven contributors. The work is presented in a loose-leaf form which provides for revision and addition in accordance with the development of new knowledge.

In the first volume the most notable articles are those on child welfare by Lucas, the prevention of communicable diseases by Zinsser, the relation of animal to human diseases by Theodore Smith, tuberculosis by Sir Robert Phillip, vitamins by McCollum, mental hygiene by Strecker, and industrial medicine by Legge. Each of these essays is from fifty to sixty pages in length, thorough, well illustrated with charts and halftones, in every sense of the word informative. Since the work is primarily a work of information, attempt has not been made at lightness of presentation, the purpose being rather to give the greatest possible amount of fact in the most compact space.

The second volume is concerned with public health, including not only an account of the development of preventive medicine and the basic facts of sanitary science but also an analysis of administrative problems, the duties of the public health nurse, social work and health in relationship to various groups in the community. It is hard to see how any public health worker can be as efficient without this work as he could be with it.

Questions *and* Answers

If you have a question relating to health, write to "Questions and Answers," Hygeia, enclosing a two-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed.

Treatment for Acne; Plastic Surgery for the Nose

To the Editor:—1. Are ultraviolet rays helpful in curing acne? I have tried nearly everything—careful diet, physical culture, some blood preparations and numerous local treatments. I cannot understand why it keeps breaking out. 2. My nose is slightly humped and oversized. I desire it reduced and straightened. Can this be accomplished without operation? Are these operations costly and what is their procedure? How is reshaping accomplished?

S. P., Connecticut.

Answer.—1. The x-ray, carefully used in skilful hands, has been useful in many cases of acne in which, so far as we are aware, the skin trouble was not affected by the ultraviolet ray. Both of these agencies, however, are capable of sharp reactions and of doing harm. They ought therefore to be used under the direction of a physician.

2; There is no method of changing the shape of the nose except by operation. That involves risk and we should emphatically advise one whose nose is reasonably sightly not to undertake to have it changed.

Lame Back

To the Editor:—Will you please advise me about the use of porous plasters? I suffer with backache all the time. When I am perfectly still it does not ache but when I move or get up from a chair I have to help myself by my hands. I have tried liniments, rubbing and hot applications but they do no good. I have been advised to wear a porous plaster but I have no faith in them. I am 65 years old and do my housework.

B. B., Wisconsin.

Answer.—There is little evidence that porous plasters are of material value in relieving such symptoms as are described. They divert attention if they contain capsicum or other ingredients that irritate and redden the skin.

The only proper treatment for lame back is to find out, when possible, the cause of the trouble and to remove it. Therefore one should be examined by a competent physician.

Lotus Hair Dye

To the Editor:—I should like to know whether you can inform me if Lotus Hair Color Treatment is safe to use.

S. L., Louisiana.

Answer.—Lotus, marketed by the Lotus Company, Inc., Newark, N. J., comes in the form of a clear liquid in a brown bottle and a white powder in a paper envelope. Tests indicated that the liquid contained silver-ammonia nitrate, while the white powder responded to tests for sulphite and sodium, probably sodium sulphite. While the danger from the use of a silver salt hair dye is not as great as that from the hair dyes containing lead salts or paraphenylendiamine, there is, nevertheless, some risk in its use. Much depends on the care with which such a product is used and also on whether or not the scalp is unbroken.

Oboe Playing

To the Editor:—I have been seriously thinking of learning to play the oboe, but a number of my friends have told me that playing it would be injurious to me. Do your statistics show that there is any truth in this?

P. E. H., District of Columbia.

Answer.—Doubtless the statement heard about playing the oboe arises from the fact that the oboe has the smallest outlet for the breath of any of the wind instruments and requires, therefore, a strong expiratory effort to blow it.

An orchestra leader, who has had opportunity for observation among musicians, reports that he knows of no basis for this assertion. Oboe players are as healthy and live as long as others and there is no reason to suppose that the playing of the instrument in any way injures the health or shortens the life of the musician.

Radium Poisoning from Clocks

To the Editor:—Is there any danger of contracting radium poisoning from the use of clocks painted with a radium compound; for instance, in case the clock crystal should be broken and the radium compound chipped off?

J. I. B., Pennsylvania.

Answer.—There is no danger whatever of becoming poisoned by using clocks painted with luminous paints. The slight amount that might possibly be obtained through a broken crystal would do no harm.

There have been a number of cases of poisoning from this substance among girls who paint the watch dials. It was the habit of these workers to wet the brush with which the painting is done with the lips, so that by this means they took into the system a vastly larger quantity than could possibly be taken by accidental handling of clocks and watches.

Cataracts

To the Editor:—I should like some information about cataracts. What are the symptoms? Can they always be operated on and sight restored or may one become totally blind? I have been doctoring faithfully for my eyes for five years but am only told that something is developing which should not be neglected. My eyes are getting worse and for the last six months they have been blood shot, especially when I am doing close work. The eyelids itch and swell and a haze comes over the sight.

J. W. F., Iowa.

Answer.—A cataract is an opacity in the crystalline lens situated behind the iris (the blue or brown part of the eye).

Children are sometimes born with cataracts and the eyes of most persons have some opacities in their lenses. Elderly persons are more likely to have cataracts, and these are serious or not according to the exact position and the density of the opacities. The majority of cataracts never reach the stage at which useful vision is lost and an operation is required.

Other diseases of the eyes impair sight in elderly persons, and it is unwise to assume that cataracts are the only cause of failing sight. If

vision is poor, the eyes should be examined to find the reason. There may be serious disease of the eyes or of the general system, which demands prompt attention and treatment.

Cataracts cannot be removed without operation, but other conditions present in the eyes may be relieved, especially by means of glasses and by care of the general bodily health. If cataracts develop to the point at which one's occupation can no longer be carried on and if the eyes are reasonably healthy aside from the cataracts, operation can be done on the more involved eye with prospect of success in more than 90 per cent of cases. It is not necessary to wait till blindness threatens; in fact, total blindness never results from cataract alone.

Senile Insanity

To the Editor:—My mother at the age of 73 had to be confined on account of senile insanity. Physically she was in almost perfect health. Her father was in the same condition at about her age, after a life of almost perfect health. They were both great readers and students. Is there anything that might help me to avoid such a condition in my old age? G. R. L., Texas.

Answer.—There is no way in which a hereditary tendency to senile insanity can be guarded against except by keeping oneself in the best possible condition by hygiene and sanitation and by the avoidance of all excesses, particularly undue worry.

High School Text on Anatomy and Physiology

To the Editor:—I am a teacher of two twelfth grade physiology classes. I wish the work to be as practical as possible but I believe they need some anatomy, as well as hygiene. We use your magazine in our classes for class reports, and many of the pupils read it regularly, as it is on our school library reference or reading table. C. R. G., Michigan.

Answer.—The tendency in recent years has been to get away from formal instruction in the details of anatomy in children's textbooks on hygiene and health. Properly used, however, such information can be made interesting as well as valuable.

A good school textbook in which there is much instruction in the anatomy as well as the physiology of the body, with numerous helpful illustrations, is entitled "Health, Public and Personal" by Ralph E. Blount. It is published by the Allyn & Bacon Company, school book publishers with offices in Boston, New York and Chicago.

Dr. B. C. H. Harvey's series in HYGEIA entitled "Simple Lessons in Human Anatomy" will make interesting supplementary reading. It is to appear in book form early in 1930.

Tapeworm

To the Editor:—I am 18 years of age, about 6 feet tall and weigh 135 pounds. Ever since I can remember, I have been underweight. I do not get sick, except for a sore throat now and then. I have a good appetite; in fact I have the best appetite of any of our family. In an hour or so after eating a hearty meal, I get hungry again. Most persons, when I tell them this, say I am suffering from a tapeworm. I do not know what a tapeworm is but I should like to find out what it is and how to get rid of it. E. W., Illinois.

Answer.—According to the tables used by insurance companies, the weight at 6 feet and 18 years of age should be 158 pounds. The young man is, therefore, markedly underweight. However, this is largely a matter of heredity and may be of no significance in reference to health. As long as a person is in exceptional health, he need not worry about being underweight.

A tapeworm is often suggested as an explanation of hunger that seems unappeased by eating. There is a simple way of determining whether or not one has tapeworm and that is by watching the stools carefully. If a person has such a parasite, he will notice long grayish-white bands that look exactly like tape. If he finds these he should take a sample of the stool to a doctor and get his advice.

Dementia Praecox

To the Editor:—A relative of mine is the parent of two small children whose mother died in the hospital for the insane. She was committed to the institution about four months after the birth of the first child and the second child was born there. The doctors stated that she was suffering from dementia praecox. Please discuss fully the chances the children have of being normal. They are now 4 and 5 years old and appear to be normal. The father is normal. What procedure would you suggest to prevent, if possible, a tendency toward insanity in these children? C. W. S., Arizona.

Answer.—While it is true that heredity apparently plays some part in the causation of insanity of this type—a part the exact nature of which is unknown—many children of persons with dementia praecox have been normal; this is especially true when the other parent is healthy.

In planning the procedures to be followed in order to minimize the effects of the inheritance, one of the most important points is to avoid giving the children any suggestion that they are different from other persons. In order to avoid giving such suggestions it is essential that those who have care of them should themselves be unafraid. Probably the best way to look at the situation is to realize that, even though one follows the precautions to be mentioned, if the child has been damaged by heredity this is something that cannot be undone and the consequences must be faced when, if ever, the occasion arises. Nothing is to be gained by worry and much harm may come from it. Undue solicitude may even precipitate the very danger one seeks to avoid.

As more positive suggestions, it may be pointed out that the person who develops dementia praecox is one who tends to shut himself up inside himself and to take little real part in the actualities of social life. He tends to be a day dreamer and interested more in abstractions than in concrete realities. In the training of such children, therefore, in addition to attention to the principles of general hygiene, it is important to encourage practical activities, participation in group games and sports, and interest in manual work of all kinds.

This does not mean that the child should not be allowed to progress in school as rapidly as his abilities will permit; there is no danger in the scholastic work itself; the principal thing is to see that there is an interest in the real things of the world with opportunities for its development. Should there appear at any time an exaggerated tendency to dreaming instead of acting, it would be wise to consult a psychiatrist or to have the child studied in some child guidance clinic.

Iodized Salt

To the Editor:—It is my good pleasure as a graduate nurse to teach home care of the sick. Frequently requests come from mothers regarding the use of Morton's iodized salt. Will you give me an opinion on it? F. B., Illinois.

Answer.—The opinion with regard to the use of iodized salt for the prevention of goiter is still divided. Iodized salt has certainly prevented the development of goiter in many school children. Whether its general use has done harm to certain children is a question about which there is a differ-

ence of opinion. Every child who shows the slightest symptom of goiter should be examined promptly by a competent physician and his advice should be followed as to whether iodized salt or iodine in some other form should be administered.

Ophthalmoplegia

To the Editor:—I am 25 years old, in fairly good health, with some nervousness. I have an eye condition called external ophthalmoplegia. I am unable to move the eyeball in any direction and have drooping lids also, but have considerable control over the latter, especially when my vitality is at its best. This is a congenital condition, but examination has failed to reveal whether it is of muscular or nervous origin. There are no brain lesions of any kind. This condition, apart from its disfiguring quality, also acts as a source of loss of vitality, as on account of weakness of muscles and some squint, accommodation is effected with more than normal effort. Is there a surgical operation to remedy this condition? I understand a shortening of the antagonistic muscle is done in such cases. If this was done in my case and operation was successful, wouldn't the external muscle gradually gain strength and throw the adjustment off balance again? Can anything be done to prevent this? I am now wearing glasses, but am anxious to have an operation performed if there is a possibility of success. Can you refer me to an institution or individual specializing in this eye condition?

I. L., Ohio.

Answer.—It is impossible to give an intelligent answer to the question in the absence of examination and study of the case. Defects of the external muscles of the eyeball are in many cases repaired either by cutting an overtense muscle or by what is called "advancing" a weakened muscle. Such operations should be done only when absolutely necessary and then by the most skilful oculist that one can find.

Tuberculosis of Genito-Urinary Organs

To the Editor:—Is tuberculosis of the genito-urinary organs curable? If so, can you recommend a better treatment than fresh air, rest and ultraviolet lamp ray treatment? Please recommend a book or pamphlet that treats of tuberculosis of the kidneys.

G. M., New York.

Answer.—Tuberculosis of the genital organs in women is treated as is tuberculosis of any other part of the body, especially when the urinary tract or the general abdominal organs are involved with the genitalia. In some cases in which the genital organs solely are involved, they may be cured by surgical removal just as a tuberculous kidney may be removed when that alone is present. Operation for tuberculosis of the genito-urinary organs, however, is not so commonly done now as formerly. Rest, fresh air and a proper diet are essential in any form of treatment. The ultraviolet ray is helpful in a limited number of cases.

There are books for the patient on tuberculosis in general, but none particularly pertaining to tuberculosis of the kidney. The patient so afflicted should place herself under the management of a good general practitioner or of one who gives particular attention to tuberculosis or to genito-urinary diseases.

Insulin

To the Editor:—I have read several articles in the St. Paul *Dispatch* by Dr. Brady recommending the use of insulin as a means of putting on weight. One physician to whom I mentioned it advised me that it was a dangerous drug to experiment with but I am still inclined to give it a trial. Would you consider it safe to begin taking as much as ten units a day?

B. P. R., North Dakota.

Answer.—Insulin does produce serious symptoms at times, although few deaths have been reported from an overdose. It is a powerful drug and should not be used for any purpose except under the immediate attention and advice of a competent physician thoroughly familiar with the conditions present in the patient.

Diet in Pregnancy

To the Editor:—I am expecting my fifth child, and I am taking one teaspoonful of cod liver oil three times a day, in addition to a well balanced diet. My other children were slightly affected with rickets and I am anxious to avoid this in the next baby. Is there anything in addition to the cod liver oil that I can take as a preventive of rickets in the child? It is too cold to take sun baths at this time of year but I can do so later. How soon after birth should one begin giving an infant cod liver oil? How soon should one begin giving sunbaths? Should a pregnant woman take iodized salt as a routine procedure (there is little goiter in this region), or should this be a matter for the physician to decide in each case?

F. M., Texas.

Answer.—Several years ago Professor Parke of Yale made the assertion that if pregnant women observed the following rules, rickets and dental caries in children would no longer exist: (1) the expectant mother's diet should include one quart of milk, butter and liberal portions of green vegetables; (2) she should take about one tablespoonful or more of a standard cod liver oil daily; (3) she should spend several hours in outdoor exercise, preferably walking; (4) she should take sun baths on warm days.

As it is more or less difficult to fulfil all these requirements, ample observations have been lacking to ascertain the correctness of Professor Parke's statement. Nevertheless it is well worth while for all expectant mothers to try to fulfil his high ideals. It is now customary to give all infants ten drops of cod liver oil two times a day starting after the first month. The dose is gradually increased to one teaspoonful two or three times a day and given daily until the child is 2 years old. Vegetables are usually begun before the seventh month, and orange juice is given when artificial food is begun. Sun baths (natural and artificial) are growing more and more popular.

As iodized salt is indicated only for persons living in goiter belts, it is wise to ask local physicians about its use.

Undescended Testicle

To the Editor:—Will you kindly tell me the cause of an undescended testicle? Is an operation necessary, and if so, at what age? Would this condition keep the boy from learning and is it the cause of his nervousness? What effect will this have on his adult life? Should he marry?

A. C. S., Ohio.

Answer.—Undescended testicle is a congenital defect and is in many cases remediable by surgical operation. Whether or not it would cause a nervous disturbance depends entirely on its location and the effects produced by pressure on the testicle of surrounding structures.

The boy should be examined by a competent physician. It probably would not materially affect him later, but that, too, depends on the condition present in his case.

Ringing in the Ears

To the Editor:—What causes one's ears to ring or become so affected that one cannot hear for a few seconds? E. S., South Dakota.

Answer.—Ringing (tinnitus aurium) in the ears may be from a variety of causes, disease of the middle ear, disease of the inner ear, or some nervous affection impossible to determine in any particular case without examination and tests.

Daily Baths

To the Editor:—Are daily baths harmful? My work makes it absolutely necessary to take a shower when I come in. This makes at least six showers a week and I am in the shower from ten to twenty minutes. I have been told that daily baths weaken one, but I have been taking them for more than a year with no serious result. It would be almost impossible to dispense with these daily baths, as part of my work is in the fumes of acetic anhydride and sulphuric acid. Would the temperature of the water make any difference in the condition of the skin? Also, how frequently may I shampoo, if I use olive oil or vaseline after each washing?

H. G., Maryland.

Answer.—Many persons take baths not only once, but twice a day and with distinct advantage. There are occasional persons whose skin is sensitive to water, for whom it is not advisable to bathe so often.

If one takes a hot bath and sweats profusely for a considerable period, one often feels a sense of weakness thereafter. It is not best for most persons, therefore, to take long hot baths too frequently, but a cleansing wash followed by a cool shower or a dip in cold water is thoroughly hygienic.

It is difficult to say how frequently shampooing may be done, but when it is necessary to get rid of the acetic acid, as in the case described, the daily shampoo followed by anointing the scalp with some oily substance would probably be of advantage.

Fistula of the Rectum

To the Editor:—Is there any cure for a fistula in the rectum other than an operation?

O. C., Indiana.

Answer.—Occasionally a fistula of the rectum can be cured by injections, but much the simplest and quickest way in the majority of cases is to open the fistula by a slight surgical operation so that it can heal from the bottom. This can usually be done under local anesthesia.

Leakage of the Heart

To the Editor:—Please send me information about leakage of the heart.

C. A. G., Illinois.

Answer.—By leakage of the heart is meant that the valves in the orifices in the heart through which the blood passes when the heart is in action are not in such condition as to make the closure perfect. In rare cases this is a congenital defect; in the great majority, however, it is the result of inflammation of the heart, associated with infection. Such a damaged valve is rarely restored to its normal condition, but the impairment in circulatory efficiency is compensated by an increase in the muscular power of the heart.

The seriousness of the effect on the heart action or the general condition depends on the particular valves which are involved, the extent of the damage and the general condition of the patient. Extreme care in the matter of rest, diet, occupation and the like is especially important for the victims of heart disease. Many persons with valvular disease live to a ripe old age and lead active lives, if their cases are properly managed.

Diet for Child

To the Editor:—My little boy will be 3 years old this month. He is normal for his age in weight and height and is above the average in intelligence. He has his troublesome last molars and has been immunized against smallpox and diphtheria. He has firm muscle, good color, bright clear eyes, takes care of his urination and bowel movements by himself, does not suck his thumb, and has fortunately outgrown his temper tantrums. But, he will not eat. He has had no cereal or cooked vegetables other than a little potato in more than a year. He cannot be made to eat what he does not want. His diet consists of bread and butter, some cream, cheese, soup (clear broths only, in which of course I have cooked every vegetable I can), meat, jello, raw fruit and occasionally some stewed fruits, raw carrots and green peas, raw beets. He will eat no lettuce or tomatoes, no fish, no cooked vegetables and no cereal. He drinks milk from a cup with cocomalt sometimes and takes plain milk only from a bottle (from which I am having a terrible time to wean him). An egg he will eat only hard boiled and of that only the yolk. I have tried every form of discipline but I cannot get him to eat properly the things he should have. There have been punishments of every kind, starvation included, but the only result of that was that in one week he lost 10 ounces. We have threatened and promised, we have tried cajoleries and used compulsion, but nothing works. Do you think he gets enough nourishment from the foods I have listed? He is growing nicely, looks well and his bowel movements are regular and normal.

R. S., New York.

Answer.—The little boy's diet seems to be satisfactory though it is unusual because of the large amount of uncooked food in it. A good diet is one that is properly balanced with the right kinds of foods. It should contain enough of the various food essentials, i. e., carbohydrate (sugars and starches), fat, protein (meat, egg white and milk), the necessary minerals, and the vitamins.

This child would seem to be getting more than enough protein, sufficient fat, the right minerals and enough vitamins. He is low on carbohydrate in the forms customarily used. Perhaps he will eat puddings, custards and plain cookies. The mother might try salads also. If bread is omitted, perhaps his appetite for vegetables will improve.

During the winter months the boy should have cod liver oil—a teaspoonful three times a day. This helps the growth of bones and teeth.

The parents should try to be patient and to avoid punishment and in time they will be rewarded by improvement. It is not a good plan to talk about his diet either to the boy or to any one else when he is listening. Get everybody in the family to eat cereal and cooked vegetables. Do not tolerate the stories of adults who tell about how much they dislike various kinds of foods or how much trouble they had to eat the right foods when they were young. Often bad food habits in children grow out of their hearing such stories from adults.

Pleurisy as Symptom of Tuberculosis

To the Editor:—After a long illness of diaphragmatic pleurisy and acute hepatitis, I was able to go to work for one month. Then I had to return to bed with intestinal colitis and a little later an x-ray examination showed a small spot on the right lung. That was a year ago and after four months in bed and continued rest I am still weak, thin and nervous. I have intestinal trouble but no fever. Sometimes I have pains in the joints and stiffness and have frequent sleepless nights and spells of perspiration. Would you diagnose this as any form of tuberculosis? Is it infectious? What method of procedure would you advise? Does pleurisy always make one subject to tuberculosis?

B. C., Pennsylvania.

Answer.—The description of the case sounds much like tuberculosis with pleurisy. Pleurisy is a common symptom of tuberculosis, the pleura becoming involved early in the disease.

It is impossible to give intelligent advice in the absence of a personal examination. The best suggestion that we can make is that the patient have himself examined by a thoroughly competent physician, preferably one who has done considerable work in connection with tuberculosis and then follow his advice.

Can this happen in Your home?

TWO little children at play—one is "nurse." She takes a bottle from the family medicine chest and gives the other some "medicine" for an imaginary pain. It is a *poisonous antiseptic!* A pitious cry! Frantic calls for the family physician! A wild dash of the ambulance to the hospital! Tragic moments of suspense while the doctors heroically work to save her life.

Almost daily the newspapers tell of similar accidents.

Accidents of this kind are now unnecessary. No longer need you keep a deadly poison in the family medicine chest for *first aid,* where the children may get it with serious results. Medical Science has developed Hexylresorcinol Solution S.T. 37, a most powerful, non-poisonous antiseptic. Harmless to mankind even if accidentally swallowed, yet powerfully antiseptic in action, Hexylresorcinol Solution S.T. 37 destroys germ-life on less than 15 seconds contact.

It penetrates into the microscopic irregularities of the wound where the germs of infection may lurk.

While Hexylresorcinol Solution S.T. 37 is a powerful antiseptic, it does not burn, irritate or stain; in fact, it is astringent and soothing. A real aid to the natural healing of the delicate injured tissues.

When an accident happens apply Hexylresorcinol Solution S.T. 37 full strength freely—at once, bandage lightly, wet the bandage with the Solution, then call the doctor.

A Safe Antiseptic for *your* home

Hexylresorcinol Solution S.T. 37

Hexylresorcinol Solution S.T. 37 should be in every home as a safe antiseptic for Cuts, Abrasions, Burns and Scratches to help prevent infection. Get a 3 or a 12 ounce bottle today at your druggists'. He will tell you how safe and effective it is.

Sharp & Dohme, Baltimore

Quality First Since 1860

Sharp & Dohme, Baltimore, Medical Department

Gentlemen:

Please send me FREE, trial bottle Hexylresorcinol Solution S.T. 37. (Liquor Hexylresorcinolis, 1-1000)

Name _____ *Street* _____

City _____ *State* _____ 4

Ready for a Drink?

"You're welcome. And it's the finest water in the world. I've been drinking it for 50 years."

CLEAR, cold water from an old-fashioned well looks mighty tempting on a hot day. One might naturally think that if the owner of the well drinks the water it must be pure. But the fact that he has drunk the water without apparent harm does not prove that the water is pure.

Science has discovered that a few individuals have been able to drink water more or less polluted with typhoid germs without contracting typhoid fever. But it is never safe for anyone to take immunity for granted.

Last year in the United States, approximately 65,000 persons were stricken needlessly with typhoid fever and 6,500 died.

Those who recover from typhoid fever are left in such physical condition that for about three years after an attack the deathrate of such persons is twice the normal rate for the same ages.

Why risk typhoid fever when it can be prevented?

The story of inoculation which prevents typhoid fever is a brilliant page in the history of the many triumphs of science over disease.

During the Spanish-American War, 281,000 of our men went into service. *One out of every twelve contracted typhoid.* In the World War there were 4,000,000 American soldiers, nearly all inoculated against typhoid. Although many of them were sent to typhoid-infected areas, only *one out of every* 3,700 *had typhoid.*

While typhoid fever frequently comes from drinking polluted water, it also comes from infected milk and various other contaminated foods, and from unsuspected "typhoid-carriers"—a few individuals who have recovered from the disease but who continue to carry the germs. When typhoid-carriers are employed as helpers in households, hotels or restaurants there is great danger that they will cause infection among those they serve.

Inoculations against typhoid fever are extremely simple and leave no scar. They protect from two to five years. Why take chances? Be prepared for your motor, camping and hiking trips this year. Go to your doctor for the protection he can give.

* * * *

Wherever cities protect their supply of drinking water from sewage or purify their water by chlorination the deathrate from typhoid drops. A marked reduction also takes place in communities where milk and food supplies are carefully protected and food handlers thoroughly inspected. But until this protection is general in cities, towns and villages and in country districts as well, typhoid inoculation is vitally necessary.

The Metropolitan will be glad to mail, without cost, its booklet, "The Conquest of Typhoid Fever," to anyone who requests it. Address Booklet Department, 6G9, Metropolitan Life Insurance Company, New York, N. Y.

METROPOLITAN LIFE INSURANCE COMPANY
NEW YORK
Biggest in the World, More Assets, More Policyholders, More Insurance in force, More new Insurance each year

Scars

To the Editor:—A young man, aged 29, received a flesh wound under the eye and one in the location of the eyebrow four months ago in a boxing bout. Two or three stitches were taken in each wound. The wounds healed readily but left pink scars, especially the wound under the eye. Can you suggest something to cause these scars to disappear?

P. Z., Minnesota.

Answer.—The pink scar following a cut is a frequent occurrence. The color disappears in time, and the scar becomes whitish. No way is known in which the disappearance of the color can be hastened.

Insomnia

To the Editor:—What do you suggest for insomnia? When I go to bed, I don't worry, but I am nervous and just can't fall asleep for an hour or two. I feel fine and do not eat a heavy supper.

A. J. S., Pennsylvania.

Answer.—Insomnia frequently is a result of some organic trouble and at other times is purely a functional disorder. It is not possible to prescribe intelligently for such a condition in the absence of a thorough physical examination and careful study of the patient and of all the conditions attendant on his case. It would be easy enough to prescribe some drug which would temporarily produce sleep, but such a course only alleviates; it does not cure.

Varicose Veins

To the Editor:—I am writing for information concerning the treating of varicose veins by injection. I have been told that the treatment is not without danger.

S. R., Illinois.

Answer.—There is a difference of opinion among surgeons as to the relative advantage of the injection treatment as contrasted with the ligation treatment for varicose veins. When a vein is injected with a coagulating solution, clots of blood are formed and in occasional cases portions of the clot may be washed into the general blood stream and produce serious results.

Some operators report no accidents of this kind; other good surgeons who have tried the plan have given it up largely because of this risk. It should be said, on the other hand, that operation by ligation and removal of a portion of the vein is not absolutely without danger. A competent surgeon should be consulted to learn what is best in a particular case.

Corns

To the Editor:—Is it possible for a corn to develop from a callus on the ball of the foot? The pain is intense when the foot is relaxed. What treatment is advisable? V. M. C., Michigan.

Answer.—A corn may readily develop on the ball of the foot. The best advice is to get shoes that fit, keep off the feet as long as the corn is painful, and consult a good orthopedic surgeon.

Tuberculous Glands

To the Editor:—Do tuberculous glands of the neck finally develop into tuberculosis of the lungs? I've had diseased glands ever since I was a child; now they are about as large as a pecan and at times become slightly painful. I am 27 years old and my blood pressure is 142. Is that something to be watched? On applying for life insurance, my payment was increased on account of my blood pressure. B. M. H., Illinois.

Answer.—Tuberculous glands do not develop into pulmonary tuberculosis. Not all diseased glands of the neck are tuberculous.

The young woman's blood pressure is a trifle high for her age but is not high enough to cause concern. A competent physician will discover the cause of the high pressure and will advise accordingly. Persons who have tuberculosis of the lungs more often than not have low blood pressure.

Rupture

To the Editor:—Can a rupture be entirely cured without an operation? I am 29 years old and unmarried. I wish to ask about the same condition in a baby about 2 years of age. Once his mother was holding him and he gave a sneeze and rupture occurred. A. B., Maryland.

Answer.—Rupture in an adult is never cured by wearing a truss. Rupture in a child is frequently cured in this way. There is no cure for rupture in an adult without some kind of operation. When one is situated in a city in close proximity to surgical help so that in case of accident, such as strangulation, he can get prompt medical aid, one can get along comfortably for a good while by wearing a well fitted truss. This should be worn constantly when one is up and about and removed only when one is lying down at night.

A doctor should fit the truss for the baby and for the inquirer, if he decides to get on for a time without an operation.

A new diet for that "Hidden Hunger"

Sunshine + + orange juice

Wheatena

served with MILK

"Hidden Hunger!" The hunger of the body for minerals, vitamins and other great food elements it needs for health and growth. Thousands of children (1 out of every 3) suffer from it.

Any physician will tell you the reason. Faulty diet. Too much *super-refined* foods—foods robbed of so many precious elements that Nature packs into them.

Wheatena is the cereal made from the entire sun-browned wheat kernel, including the germ. From sunshine . . orange juice . . Wheatena *with milk* . . you get all the known *vitamins* . . the essential *minerals* . . the body-building *proteins* . . the energy-producing carbohydrates and fats . . the right amount of *bran* for safe, wholesome regulation.

The delicious nut-brown wheat cereal

Special Offer!

"Feeding the Child from Crib to College" is an entirely new kind of book for mothers—written by one of the most eminent child-health specialists in America. Absolutely authoritative. Only 10c brings you a copy. Please use coupon on right.

Wheatena sample FREE

☐ Check here and we'll send you a sample of Wheatena FREE.

☐ Check here—enclose 10c—and we'll send you a copy of the book.

The Wheatena Corporation
Wheatenaville, Rahway, New Jersey

*Name*_____

*Address*_____ H 6-29

The "double panel" use—an exclusive Mitchell feature—provides a table 17 x 24 inches—ample for serving lunches, playing bridge, etc.

Summer joys are multipled when you take advantage of this convenience. Delightful summer reading is made even more delightful. Arm-strain and eye-strain are removed. Even on the hottest days you enjoy complete concentration and relaxation.

Folded, the Mitchell Lap Table fits into your suitcase. Take it with you in traveling, camping or picnicking. Read, write, lunch, sketch or play cards under the trees *in comfort.*

are enabled by the Mitchell Table to **sit upright.** Harmful humping eliminated.

now read, write and edit in their coziest chair.

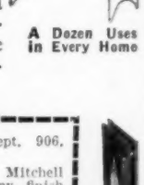
especially appreciate the Mitchell Table. Permits them to read without eye-strain—to eat comfortably.

A Dozen Uses

Winter and summer, the Mitchell has a dozen uses. Indispensable to invalids—enables them to read and eat comfortably in bed. Prevents humping of children. An investment in convenience.

The Mitchell Table is unusually well made, beautifully finished in walnut or mahogany. Felt bottom (a special feature) prevents slipping, protects furniture. *Metal supports for bed use included without extra charge.*

5 Days' Trial in Your Own Home. Try the Mitchell for 5 days. See for yourself its advantages—its many uses—the delightful relaxation that it brings to you. Return it if you are not enthusiastically satisfied. Otherwise, send us $6.50 and it is yours for a lifetime of service. The coupon is for your convenience—for a more enjoyable summer, send it in today.



A Dozen Uses in Every Home

MITCHELL MOULDING CO., Dept. 906, Forest Park, Ill.

You may send me, postpaid, a Mitchell Duplex Lap Table in ☐ mahogany finish ☐ walnut finish, on trial. Five days after receiving it I will either return it or send you $6.50 (Foreign, $7.50, prepaid).

Name.....

Street Address.....

City..... State.....

Bank Reference.....

Folds flat when not in use

Dropsy After Eclampsia

To the Editor:—How frequent an after-effect of eclampsia is dropsy, and how long after an attack of eclampsia can dropsy result? J. E. B., Nebraska.

Answer.—There is probably no definite relationship between eclampsia and dropsy at some subsequent date. Dropsy is usually due to disease of the heart, kidneys or liver. It is possible that the toxemia of pregnancy, which terminated with convulsions, may have increased the damage to one of these organs to such a degree that the dropsy might follow. This is not a common result and whether or not there may have been some relation in this case could be answered only by the physician who was in charge of the patient.

Butter; Gulping Milk

To the Editor:—I have always understood that one should spread butter generously on little children's bread owing to the presence of vitamin D in it. The other day I was stopped by a friend who told me that I would make my child bilious. Now my boy is 4 years old and a small eater, although he is underweight and he does not eat between meals. Am I right in allowing him to have a reasonable amount of butter and does it make him bilious? Not long ago I read an article about the quick drinking of milk or gulping it. My boy does this, but if we try to force him to sip it, he drinks very little. The article said the main idea was the consumption of milk. Am I doing right in allowing him to drink so fast?

A. L. F., Arizona.

Answer.—Butter is especially rich in vitamin A but not in vitamin D. It is difficult to know just what any one means by the term "bilious." The expression is rapidly growing into disuse because it is so indefinite.

Butter is an admirable article of food for children, in reasonable amounts and is usually easy to digest. Like most other articles of food, it will occasionally disagree with an individual child and then, of course, must be cut out of the dietary or given in small amounts. It does not tend to make a child "bilious," whatever that means.

As to the boy's gulping of milk, the mother might try letting him take his milk through a straw or a glass tube or she might see that he gets a good part of the milk with cereals, bread or crackers, to be taken with a spoon. If, however, no disturbances follow his gulping it down, she need not worry.

For those wayward thumbs

This soft, pliable, kindly little binder, fastened gently to baby's active chubby arms, does **just what it is intended to do and no more**—keeps the thumb or finger from quite reaching the mouth, and does not hamper movements or play in any other direction. Children become immediately accustomed to it and it is a wholesome way to ward off the whole train of baby ills—facial deformities, respiratory and throat troubles—that come with the thumb-sucking habit. Help your baby—try a

BOWERS KANT-FAYL ANTI-FINGER SUCKING DEVICE

If your dealer cannot supply you, order from us. Per set, $3.00

Little Rock Surgical Company

Donahey Bldg. LITTLE ROCK, ARK.

Are your children going to camp?

Or to the Shore?

Or to the Mountains?

Remember that summer-time sun, dust and perspiration make frequent shampoos for children imperative, if the scalp is to be kept healthy.

Let them take along this **unique health shampoo.** Lathers and rinses in hard waters, washes out **salty** water; benefits the scalp. Medically approved.

DERBAC

At your druggists or send 25c for a 20-shampoo cake to

CEREAL SOAPS CO., Inc.
Dept. H-6, 334 E. 27th St., New York City

Are You Interested in a

SAFE* and *SANE

PHYSICAL EDUCATION PROGRAM?

We advocate not "Fads and Fancies" but a practical scientific and educational program.

Why not join this Association and thus increase the possibilities for good work in physical education?

REGULAR MEMBER, $5.00
SUSTAINING MEMBER, $10.00

These memberships include the receipt of the AMERICAN PHYSICAL EDUCATION REVIEW, the only official magazine on physical education published in the United States.

Write for sample copy of the Review, application blanks and information to

AMERICAN PHYSICAL EDUCATION ASSOCIATION

Box G, Highland Station
SPRINGFIELD, MASSACHUSETTS

TO ESTABLISH FUND IN HONOR OF DR. SALMON

A fund to provide a series of lectures in the field of psychiatry and mental hygiene is to be established as a memorial to the late Dr. Thomas W. Salmon, professor of psychiatry at Columbia University and medical director of the National Committee for Mental Hygiene, who died in the summer of 1927.

Administration of the fund will be vested in the New York Academy of Medicine, according to the announcement made by the Hon. George W. Wickersham, honorary chairman of the committee initiating the movement. Leading universities, medical schools, scientific societies, hospital services and independent workers, both in the United States and in foreign countries will be surveyed annually to select the lecturer.

Psychiatry and mental hygiene have never had the benefit of this type of lecture and it is believed that it may be an important means of stimulating research in this field. In addition to the lecture provision, the fund will make possible the publication of the lectures.

FOOT EXERCISES

Dr. E. L. Fisk, New York, writes: "In HYGEIA for May, I note under the article entitled 'Painful Feet' the following exercise recommended by Dr. Rechtman:

"'Rise on the toes slowly and return to position. This strengthens the calf muscle, which is the chief support of the arch.'

"I am sorry to see this fallacy perpetuated. I do not need to tell you that the calf muscles are not the chief support of the arch and that the exercise recommended has not sound orthopedic support. To quote from the volume 'Military Orthopaedic Surgery,' prepared by the Orthopaedic Council (Medical War Manual No. 4):

"'As ordinarily performed, the exercise of rising on the toes is of little value and may even be productive of harm in the case of very weak feet. If done at all, one should rise as high as possible on the toes, separating the ankles slightly while rising. Rising to the extreme degree calls into full use the muscles of the forefoot and deepens the arch (bow-string action of the muscles); separating the ankles in rising affects the adductors of the foot and to a lesser degree the outward rotators of the hip. As this exercise, if properly done, requires a considerable degree of strength, it should not be used at first, and not at all in the case of very weak feet.'"

Betty phones the doctor

"Mamma said to tell you the Nason's Cod Liver Oil you prescribed is doing me lots of good—and I don't mind taking it a bit!"

Product of Nason's own plants at the Lofoden Islands of Norway, biologically tested at the American Laboratories of the Tailby-Nason Company, Nason's may be relied upon always for purity and vitamin "A" and "D" potency.

It tends to produce immunity to colds; builds bone and tissue; balances diet; makes for vital energy and happy health.

And Nason's has something else! An agreeable taste secured by thorough refining methods and the addition of a minute quantity of special flavor.

Nason's palatable cod liver oil complies with the U. S. P. standards for cod liver oil. In addition, it is required to have a content of fat soluble vitamin A, determined by the U. S. P. method, of not less than 800 units per gram, and an antirachitic potency such that 0.01 Gm. per day will produce definite healing (as determined by x-ray photographs), in the leg bones of rachitic rats in eight days when added to a diet lacking in vitamin D, the rats being also deprived of ultraviolet light.

Nason's
Palatable - Norwegian
Cod Liver Oil
The Better Tasting Kind

TAILBY-NASON COMPANY
Kendall Square Station, Boston, Mass.
Pharmaceutical Manufacturers to the Professions of Medicine and Pharmacy since 1905.

Gentlemen:—You may send me (without charge) sample bottle of Nason's Palatable Cod Liver Oil.

Name .....

Address .....

My Druggist's Name.....(H. 6-29)

a new way of eating bran

—a delicious hot whole-wheat cereal that contains but conceals the bran

ARE you tired, pepless, headachy? Discouraged because you think "it's just nerves and I ought to get over it." Sometimes "just nerves" means faulty elimination. Your whole system crying out for relief. You take laxatives. Or try in vain to like harsh, tasteless roughage.

Here's a simple and delicious remedy that will tempt your appetite instead of punishing it. It's Pettijohn's. An enticingly good-to-eat cereal that conceals whole bran in tender flakes of whole wheat.

In this savory hot cereal you'll find bran you really enjoy eating. Bran softened by cooking so that it's kind to nervous digestions. Bran combined, too, with the vital part of the wheat, which makes it doubly effective.

Pettijohn's gives you the whole wheat just as nature intended you to have it. This means a richer protein, more abundant iron, lime and phosphorus. It means, too, the vitamins A, B, and E, which occur together only in whole grain cereals.

Pettijohn's is a refreshingly different change from the usual hot cereals. Try it served steaming hot with half-and-half. Quick Pettijohn's cooks in "toast and coffee time." Try it.

14

Pettijohn's

For those who believe in "whole grain nutrition"

We've a book of whys and wherefores of whole wheat. It's called "The Truth About Bran" and contains some valuable recipes. Send for your free copy. Address The Quaker Oats Company, Chicago.

STATE HELPS VETERANS FIGHT TUBERCULOSIS

The problem of rehabilitation of World War veterans suffering from tuberculosis has been attacked from a new angle by the American Legion and the state of Pennsylvania. Cabins are to be erected in the state's public forest land where the altitude is around 10,000 feet. In these cabins the disabled veteran whose case is arrested but who is not able to undertake regular work may live and help care for the timber. Two cabins have already been built.

The plan was first advanced by Dr. Henry Pleasants, Jr., chairman of the state medical aid committee of the Legion, and has received the

support of many organizations and public officials. A special committee of physicians who have specialized in tuberculosis will determine in each case whether the tuberculous patient has progressed far enough toward recovery to undertake the rehabilitation program.

COUNTY TO CONTINUE HEALTH WORK

When the five year child health demonstration conducted by the Commonwealth Fund in Rutherford County, Tenn., was brought to a close, Dec. 31, 1928, the county appropriated funds to continue an efficient health service, the bulletin of the health department announces.

In the appraisal of health activities made by the American Public Health Association, Rutherford County scored 814 out of a possible 1,000 points. This is one of the highest scores ever made by a rural county health department. At the center of the health service is the Rutherford Hospital, which functions along the modern conception that the hospital should be active in the work of preventing disease as well as in strictly medical procedures.

"The Bathing Beach on Your Lawn"

A portable canvas pool with water spray and depth regulator—water supplied and drained through a garden hose. We will be glad to send particulars.

The American Wading Pool Co.
801 Wabash Bldg. Pittsburgh, Pa.

For Children, Too!

No. 15

The adjustable spray tip, featured by the No. 15 spray, as illustrated, will prove of especial importance in treating children.

Anatomically correct for treatment of both nose and throat.

The DeVilbiss Company
TOLEDO, OHIO

Sex Educational Pamphlets

For Boys

John's Vacation—For boys from 10 to 15 years old.

Chums—For boys from 16 to 18 years.

For Girls

Margaret, the Doctor's Daughter—For girls from 12 to 14.

Life's Problems—For young women from 15 to 18.

PRICES—Single copies of any of the above pamphlets, 25 cents prepaid. In lots of four, 75 cents prepaid. Discount on quantities.

AMERICAN MEDICAL ASSOCIATION
636 N. Dearborn St., Chicago

"Get some work in the open—Henry"

HENRY Borden is sixteen and a typical American young man. His farsighted parents have sent him to Dr. Denton, the family physician, for a health examination. Henry's mother was worried because he was somewhat underweight. If Henry were given a thorough examination there would be nothing to worry about—they would *know* if anything were wrong.

So Dr. Denton looked at his ears, teeth, and tonsils, "thumped" his chest, listened to his heart, measured his blood pressure, made a blood count, a urine analysis and tested his hearing, eyesight, and nerve responses. Among other things Henry answered many questions regarding his habits, and then Dr. Denton made x-rays of his head, lungs, heart and digestive tract.

Now three days later Henry has called to find out what Dr. Denton recommends. "Henry, there is absolutely nothing wrong with you that you, yourself, can't remedy. You have worked hard in school and now you must get some work in the open, Henry, for the vacation—and preferably active work. It will do you a world of good. Tell your mother for me there is nothing to worry about."

A doctor today would not dare say "there's absolutely nothing wrong" without x-ray confirmation. Don't worry about your health. But, for your own peace of mind, have a complete health examination once a year.

EASTMAN KODAK COMPANY, 343 STATE STREET,
Rochester, N. Y.

Gentlemen:

Please send me "How X-rays Aid the Public."

Name.....

Address .....

LOUISA WRITES:

Sunday, Aug. 21, '27.
3446 Oakwood Ter.,
Wash., D. C.

Dear Sir:

I had never passed the posture test at school, and when the doctor examined me, he found one shoulder was higher than the other, and I had a slight curvature of the spine. The health teacher at school gave me some exercises to do, especially hanging by one arm, so father bought us a "Busy-Kiddie" for Christmas and hung it on the door of my room. I did exercises on it all winter, and in the spring, when they gave us another posture test, I passed it for the first time. Mother says the "Busy-Kiddie" is the best thing we ever bought.

Louisa Stuart.

The Busy-Kiddie
TRADE MARK

The Patented "Hanger" Clamps door trim. Turn screw to fasten or release. Won't mar woodwork. Tested to 350 lbs.

has helped a great many children besides Louisa in correcting posture and building health in general. The **"Busy Kiddie"** is a **Doorway** Gym, the complete set comprising: The Patented **Hanger**, Swing, Trapeze, and Flying Rings; the three latter are hung from the **Hanger** as desired. The **"Busy Kiddie"** Spring Exerciser has recently been added; but is $2.50 extra. The **"Busy Kiddie"** should be in every home where there are children between 3 and 8 years of age because it makes health building such fun that the youngsters just love to keep on getting healthier.

See Hanger Overhead

$7.75 PER SET

Write for Free Folder

STANDARD PRESSED STEEL CO.
JENKINTOWN, PA. • • BOX 504

MARYLAND ROUNDS UP PRESCHOOL CHILDREN

Maryland has already started its annual drive for health examinations of children who will enter school for the first time this September, the bulletin of the state health department announces.

The health department, the state department of education, the deputy health officers and the parent-teacher associations of the state are cooperating in the preschool roundup. The examinations will include special attention to weight, posture, heart, lungs, the throat, nose, teeth, vision and hearing. Conditions that need corrections will be pointed out and the parents of the children will be urged to take them to the family physician for the necessary care.

In previous years the examination of preschool children has revealed many defects that had important bearing on their general health. Of 3,541 prospective first-graders examined in 1928, more than half had decayed teeth. Enlarged or infected tonsils were observed in 1,245. More than two thirds of the group had not been vaccinated for smallpox.

OHIOANS ORGANIZE TO FIGHT DISEASE

Ohio has embarked on an extensive program of public health activity, the bulletin of the Ohio Public Health Association reports. Ohioans throughout the state are enrolling as "public health associates" to underwrite a five year program of disease prevention.

Gov. Myers Y. Cooper was the first to enroll and he issued an official message urging the cooperation of all thinking Ohioans to the end that the methods employed by the Ohio Public Health Association for twenty-eight years in the fight against tuberculosis might be extended to other health work.

STORY-TELLING GARDEN IN CENTRAL PARK

New York children who must stay in the hot city during the summer are being encouraged to spend as much time as possible in the public parks and playgrounds. An attractive spot now being arranged for them is a "story-telling garden," in Central Park, a memorial to Frances Hodgson Burnett, the creator of Little Lord Fauntleroy. The garden will have a pool and a bird bath fountain and an official story-teller will be in charge to entertain and instruct the children, says a note in the *World's Children*.

Don't Rob your baby of sunshine

Babies' bodies need sunshine. Kept away from the sun babies grow pale and sickly, like flowers that do not get the light. The sun's rays cure and prevent many babies' diseases, build strong bones and healthy, sturdy bodies. Doctors say give your baby sun baths every day.

Vanta
Original
SUN SUIT

lets the healing rays of the sun reach little arms, legs, shoulders, chest and particularly back and spine, but protects vital parts.

Vanta Sun Shirt to match Sun Suits easily pulls on over the head to protect against cool breezes. *Vanta Sun Tam* protects the head.

Vanta Sun Garments, cotton for play and wool (suitable to wear in water) are Vanta Quality, in six brilliant California colors; sizes to 12 years. A doctor's prescription in each Sun Suit tells how to give your baby sun baths.

Vanta Linen Mesh Garments

Physicians suggested Vanta Linen Mesh Garments for babies, so we make them in Shirts, Vests and Union Suits. They absorb perspiration readily, eliminating one cause for colds, easily washed and durable. Of pure imported Irish linen with a mixture of fine lisle thread producing a soft fabric just right for babies at reasonable prices.

FREE TO YOU

Vanta Pattern, also "Baby's Outfit," a book of 64 pages on care and dressing of babies.

Earnshaw Sales Co., Inc.,
Dept. 1202, Newton, Mass.

Send free pattern and full instructions for making the new Vanta square-fold, pinless diaper. Also Baby's Outfit book and illustrated catalog, all in plain envelope.

Name_____

Address_____

City_____ State_____

CHECK DISTRIBUTION OF INFECTED ONIONS

A shipment of canned onions from Italy was recently found to have caused at least one death and one serious illness from botulism in Chicago. Prompt action on the part of federal, state and city food officials caused practically all the cans to be located and destroyed, though they had been distributed to many cities and towns in the East and Middle West.

Bacteriologists of the Food, Drug and Insecticide Administration have examined 368 cans of the onions and have found twenty-two of them so poisonous as to kill guinea-pigs at once, while thirty others yielded cultures producing toxin fatal to guinea-pigs. The onions were apparently not rendered sterile when they were canned and as a result the virulent toxin developed.

Botulism is a rare but extremely dangerous form of food poisoning, explains a bulletin of the U. S. Departments of Agriculture. Typical symptoms are double vision, nausea, obstinate constipation, inability to swallow, impairment of speech with general weakness and loss of muscular control. Patients usually do not have chills, fever, pain, headache or impaired consciousness. Death comes within a few hours as a result of respiratory paralysis. A serum has been discovered which, if applied promptly, will in some cases save the lives of the victims.

HOW LIGHTING AFFECTS EYESIGHT

Do you know:

1. That reading in dim twilight hurts your eyes?
2. That looking at an intensely bright light, as the sun, has caused blindness?
3. That a bright light in your field of vision is harmful?
4. That using your eyes in a flickering light causes eyestrain?
5. That sharp contrasts are bad for the eyes?
6. That glare diminishes the visibility of objects?
7. That the treatment of the ceilings and walls are involved in good lighting?
8. That dust on the globes, shades and reflectors impairs the efficiency of the lighting?
9. That colored garments often appear different by artificial light that is deficient in blue rays?
10. That portable lamps are a great aid to efficient lighting?

—*General Science Quarterly.*

No *wonder* COLGATE'S CLEANS TEETH BETTER

YOUR dentist will tell you that decay doesn't start on the smooth outer surfaces of the teeth . . . but in the tiny crevices which exist in all normal teeth, in which food particles and mucin collect.

No toothbrush can reach these hard-to-clean places. They must be cleansed by the dentifrice.

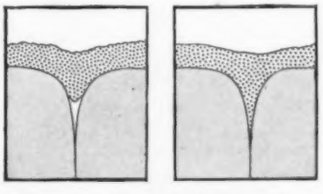
Hence the real test of your toothpaste is its ability to get down into these crevices and cleanse them thoroughly. A recent scientific test proved that Colgate's has a greater penetrating power than any of the leading toothpastes on the market today. This is the secret of Colgate's superior cleansing power.

When brushed, Colgate's breaks into an active, sparkling foam. This foam possesses a remarkable property (low "surface-tension") which enables it to get deep down into every minute pit and fissure. There it softens and dislodges the impurities, sweeping them away in a detergent wave.

In this foam is carried a fine chalk powder . . . a polishing material prescribed by dentists . . . which polishes the enamel safely, brilliantly.

Think what this means to you . . . By using Colgate's you can clean your teeth thoroughly, scientifically, exactly as your dentist would have you clean them . . . restoring the natural loveliness of teeth and gums.

If you have never used Colgate's you will be surprised and delighted with its wonderful cleansing action. Mail the coupon below for a generous trial tube and an interesting booklet on the care of the teeth and mouth.



Greatly magnified picture of tiny tooth crevice. Note how ordinary, sluggish toothpaste (having high "surface-tension") fails to penetrate deep down where causes of decay lurk.

This diagram shows how Colgate's active foam (having low "surface-tension") penetrates deep down into the crevice, cleansing it completely where the toothbrush cannot reach.

TRY Colgate's ONE WEEK FREE.

COLGATE, Dept. B-1800, 595 Fifth Avenue, N.Y.
In Canada Address Colgate, Toronto 8, Ontario.

Please send a free trial tube of Colgate's Ribbon Dental Cream, with booklet "How to Keep Teeth and Mouth Healthy."

*Name*_____

*Address*_____

"Be mama's brave little man"

Hiding under the bed never saved Junior. There was no escape from the noxious dose of old-fashioned castor oil. Today all that is changed—now Juniors are given Kellogg's Tasteless Castor Oil.

Tasteless because it is 100% pure—free from all flavoring, benzyl alcohol, saccharin. Kellogg's is the only refinery-bottled castor oil. This keeps it pure, fresh and wholesome.

KELLOGG'S

The Original

TASTELESS Castor Oil

THERE IS NO SUBSTITUTE FOR PURITY

Never sold in bulk but always in the original bottles. 1 oz. (1 dose), 3 oz. and 7 oz. home-size bottles. Send for trial bottle enclosing 10c in stamps.

Tested and Approved 1927 Bureau of Foods, Sanitation and Health • Good Housekeeping Magazine

Sold by all druggists.

Walter Janvier, Inc., 121 Varick Street, New York

THE A B C OF SAFETY

The following alphabet of safety is abridged from a booklet published by the Benefit Association of Railway Employees and distributed to its members:

A stands for alertness. It means keeping your eyes and ears open and your mind on what you are doing, whether at work or play.

B stands for blindness. Eternal blindness might be the penalty for a moment of carelessness.

C stands for crossings. Let a train whistle be a warning, not a death knell.

D stands for dirt. Keep clean. Infection might mean unemployment, suffering or death.

E stands for explosives. Never light matches or smoke around powder, oils, saturated waste or other inflammable materials.

F stands for first aid. Injuries, no matter how slight, should be treated at once by an experienced person.

G stands for gun. Empty guns are always loaded.

H stands for horseplay. Never tickle, push, prod or throw things at any one.

I stands for inexcusable. It applies to doing things contrary to common sense.

J stands for jaywalkers. Short cuts sometimes mean short lives.

K stands for knife. Never let open knives lie around. Keep them away from children.

L stands for look. Thousands are struck by automobiles and moving cars because they fail to look.

M stands for matches. One match—perhaps yours—can burn down a city.

N stands for new. The new man should be shown the hazards of his job and the safe way of doing things.

O stands for orderliness. Keeping tools and material in their proper places prevents accidents.

P stands for poison. Take no chances with acids, dust, gases, chemicals, paints.

Q stands for quick. Every job has its time. Trying to do it more quickly means taking a chance.

R stands for rules. Work according to safety rules and you will work longer.

S stands for swimming. Know the depth of the place in which you swim. Never swim just after eating. Never swim alone.

T stands for tools. When tools glance off, slip, break or fall, it means possible injury to some one.

U stands for unsafe. Don't flirt with danger. It comes soon enough.

V stands for valor. Taking risks to save some one from accidents is valor; but showing off and pulling smart stunts is nonsense.

Baby "Sees Out"

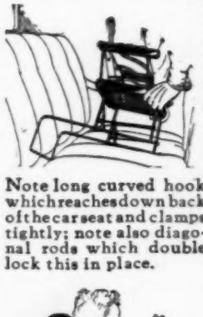
Mother Drives Without Distraction!

PERHAPS there might never have been a "Comfy-Safe" Auto Seat if it hadn't been for one baby's daddy wishing to take baby to grandmother's at a time when no one could conveniently accompany them.

COMFY-SAFE AutoSeat •

Happy and Secure in a "Comfy-Safe" AutoSeat

Now, with the "Comfy-Safe" locked to the auto, and baby securely but comfortably held in its specially designed safety strap with adjustable shoulder harness and belt, baby can be taken safely in any car, even when unattended.



Note long curved hook which reaches down back of the car seat and clamps tightly; note also diagonal rods which double lock this in place.

Locks to any car, front, rear or coach seat. At leading dealers, $5.50

LITTLE TOIDEY

Made by the makers of the famous "Little Toidey" toilet seat and "Toidey" Steps.

Write for more information!

Juvenile Wood Products, *Inc.*

Gertrude A. Muller, Pres.

Box N FORT WAYNE, INDIANA

W stands for waste. Careless use of equipment and supplies increases expenses. Increased efficiency means safety.

X stands for x-ray. Use your head as an x-ray to look into your work and find the safe methods.

Y stands for you. One man can ruin a whole outfit and spoil a safety record. Don't be that man.

Z stands for zero. It means the careless man on the thermometer of safety first.

OHIO COUNTY HAS SCHOOL FOR CRIPPLED CHILDREN

Although crippled children have long been a subject of concern in cities, little has been done for them in rural districts. There are more of such children than one would suppose without a careful study of conditions, declares Paul V. Brown in an article in *School Life*. It is difficult if not impossible for them to get an education. Roads are bad and even if the crippled children could get to school they could not have the proper care.

Belmont County, Ohio, has had for three years a special school for crippled children at Barnesville. Twenty crippled boys and girls are brought from all over the county. They stay in Barnesville from Monday morning to Friday night, living in boarding homes carefully selected by the school. They are enrolled in all eight grades under two capable teachers.

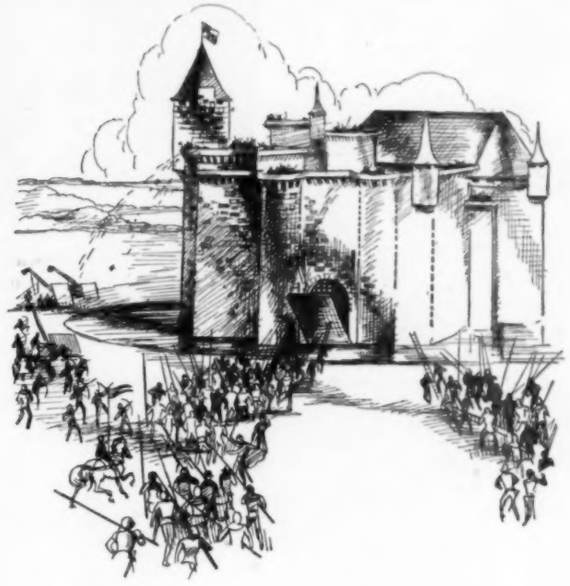
Lessons are the same as in any school except that they are carried on under different conditions. The children have a light lunch of milk and crackers during the morning rest period. At noon the lunches that they have brought from home are supplemented by hot dishes from the school kitchen. Art and music supervisors come in for special periods; manual training is offered for the boys and sewing for the girls.

It is especially important for crippled children to be properly educated. Some of them will never be able to do manual labor and must therefore have their minds trained to enable them to be independent. For those who will be hopeless cripples the work in school should open up new worlds in literature, art, music, science and study to help them spend their abundant leisure wisely and happily, not despondently.

A venerable sage of China gives these health rules:

Keep a quiet heart.
Sit like a tortoise.
Walk sprightly like a pigeon.
Sleep like a dog.

—Li Ching-Yun.



Keep the enemy out

[*a health idea, too*]

TO *prevent* invasion, they used to raise the drawbridge. It was a better idea than to grapple with actual invaders.

An ounce of soap suds . . . worth a pound of cure!

Today, public health workers are finding that to *prevent* the invasion of disease germs is a better idea than to fight them, once they are in.

Cleanliness Institute, in enlarging its Department of Health Service, aims to cooperate with organizations and individuals in showing how cleanliness can be used to fight disease.

The Institute makes available ideas, literature, and assistance in this important field. Use these helps, which emphasize greater cleanliness, to enlist the public in your drive against communicable disease.

For Health Service lectures and materials, write to the Director of the Department, W. W. Peter, M.D., Dr. P. H., or to the Associate Director, W. R. Redden, M.D.

CLEANLINESS INSTITUTE

Established to promote public welfare by teaching the value of cleanliness

45 EAST 17th ST., NEW YORK, N. Y.

ROSCOE C. EDLUND, General Director

Nonspi
AN ANTISEPTIC LIQUID
Keeps Your Armpits Dry and Odorless

NONSPI destroys the odor and diverts the underarm perspiration to parts of the body where there is better evaporation—and need be used on an average of but two nights each week.

NONSPI will also protect your clothing from those ruinous, discoloring, destructive perspiration stains, in addition to keeping your armpits dry, odorless and sweet.

More than a million men and women keep their armpits dry and odorless and save their clothing by using this old, tried and proven preparation which is used, endorsed and recommended by physicians and nurses.

Get a bottle of NONSPI today. Apply it tonight. Use it the year around—spring, summer, fall and winter. Your Toilet Goods Dealer and Druggist has it at 50c (several months' supply) or if you prefer

FREE TESTING SAMPLE SENT ON REQUEST

THE NONSPI COMPANY
2673 Walnut Street
Kansas City, Missouri

Send free NONSPI sample to

NAME_____

STREET_____

CITY_____

PHYSICAL STANDARDS FOR THE CHILD

Children of school age may be checked as to their physical growth and hygiene by the following standards formulated by the parent-teacher associations of California and published in the bulletin of the state department of health:

Has he—

Sound, even, well-cared-for teeth?

Erect posture, firm muscles, good feet?

Normal vision (properly fitted glasses, if required), normal hearing?

Nose and throat free from abnormal tonsils, adenoids or obstructions to breathing?

Weight up to or a little above average for height and age?

Protection by immunization against diphtheria and smallpox?

A general sense of well-being and vigorous enjoyment of life?

Does he—

Eat freely of all suitable foods (vegetables, whole grain cereals or breads, fruits)?

Drink water freely between meals (from five to six glasses)?

Eat adequately but not excessively, and not more than four times daily?

Go to bed regularly at a reasonable hour; sleep nine hours daily?

Have a daily bowel movement without the use of drugs?

Play actively outdoors at least two or three hours daily?

Brush his teeth thoroughly night and morning?

Take a full bath at least twice weekly; daily if possible?

Wash his hands before meals and after using the toilet?

Keep fingers and pencils out of mouth and nose?

Cover mouth and nose when coughing or sneezing?

Do you—

Have him examined regularly and thoroughly once yearly by your doctor?

Have him examined regularly and thoroughly twice yearly by your dentist?

Have needed corrections made promptly?

Dress him comfortably and suitably, paying special attention to shoes and stockings?

Protect him from overstimulation and excitement?

Does he avoid—

Undue fatigue?

"Nervousness"?

Sleeplessness?

Underweight or marked overweight?

Poor appetite?

Frequent colds?

Use of cup, spoon and towel, used by any one else?

HOW FARGO SUPERVISES ITS NEWSBOYS

Not so many years ago the newsboy situation in Fargo, N. D., was deplorable. Fights were common. Newsboys pilfered in apartments, stores and offices and short-changed customers constantly. Gambling and begging were rife. Finally, after a disgraceful raid by the newsboys on a convention hall, the police were forced to act and Alice E. Duffy, lone policewoman in Fargo, was given full authority to do what she could. She tells the story in *The American Child.*

At a conference with the boys themselves the following regulations were agreed on:

The minimum age for street sellers should be 12.

Applicant's statement of age must be verified by school records.

Age vouchers must be carried by all sellers.

Newsboys must recognize official assignments and corners.

Disputes between newsboys must be settled in Miss Duffy's office.

Noisy, boisterous "calling" must cease; only extras to be called.

Urgent soliciting or any form of begging should stop.

Business places and hotels must not be entered without the manager's consent.

Courtesy to the public must be observed.

Newsboys must come to the policewoman's office on receiving notice.

Suspension or permanent removal from the sales force would follow violations.

Opposition and obstacles in plenty arose, but gradually the worst of the lawlessness was eliminated. Difficulties still occur, but they are arbitrated in the policewoman's office. In the eleven years since the system was adopted not one regular newsboy has had either a police or juvenile court record.

Numbers of the former newsboys are now college graduates and several are at present working their way through college. Most of them have worked their way through the seventh and eighth grades. Records show that more than 95 per cent of them are making good in whatever they have undertaken. This is the proof that the work pays.

When we keep in mind that the healthy body is a perfect, self-purifying machine, created with every provision for the neutralization and elimination of the so-called poisonous waste, we should understand how useless and unnecessary is the administration of drugs like sulphur and sassafras in the spring.

His first year

Give him a good start! . . . breast milk.

If your milk is not plentiful, try a diet of Horlick's Malted Milk. Mid-morning and mid-afternoon lunches of "Horlick's" increase its flow; enrich it.

"Horlick's" is made from fresh, full-cream cow's milk and choice malted grains. Taken by the mother, it usually acts to prevent constipation in the infant. Physicians the world over have recommended it for nearly 50 years.

Send the coupon below for free sample and speedy mixer, *today.*

Safe milk

No need to gamble on the purity—the freshness—of the milk you give your children. Use "Horlick's"!

"Horlick's" is *safe,* convenient. Made from fresh, full-cream cow's milk and choice malted grains, under rigidly sanitary conditions. Physicians have recommended it for nearly 50 years.

Take "Horlick's" with you when travelling by train, ship or motor. You can prepare it in a moment, anywhere.

Send the coupon below for free sample and speedy mixer, *today.*

Sleep all night!

Tossing . . turning . . waking unrefreshed. "Horlick's" will prevent this!

Take a glass of Horlick's Malted Milk— preferably hot—before retiring. You'll fall asleep . . and *stay* asleep.

Thousands who suffer from frayed nerves and rundown condition have relieved sleeplessness by this simple, natural method. "Horlick's" nourishes, builds up, as you sleep.

Try "Horlick's" (natural or chocolate flavor) every night! Send coupon below for free sample and speedy mixer *now.*

"Minute meals"

The middle of the morning, the afternoon . . . everyone needs a "bracer."

In a minute you can whisk up a creamy glass of Horlick's Malted Milk! Its full-cream cow's milk, malted grains and pure malt sugars give quick energy.

Have it ready for the children when they come from school. Take "Horlick's" after the evening theatre or movie. Horlick's Lunch Tablets may be carried in pocket or bag.

Send the coupon below for free sample and speedy mixer, *today.*

THE ORIGINAL MALTED MILK

HORLICK'S

FREE TRIAL PACKAGE

HORLICK'S MALTED MILK CORP.
Dept. F-19, Racine, Wis.

Tear out and mail this coupon for sample package. Check flavor wanted. For Speedy Mixer, the improved method of mixing a creamy Malted Milk *in a pitcher or a glass,* enclose 4 cents in stamps for postage.

☐ Natural ☐ Chocolate

Name .....

Address .....

(If you live in Canada, address 2155 Pius IX Ave., Montreal)

Horlick's, the original Malted Milk, is sold in both natural and chocolate flavors, in powder or tablet form

Muffins *for* Diabetics

Palatable muffins and more than thirty other foods, each strictly starch-free, may be included in your diet when you use Listers casein-palmnut Dietetic Flour.

STRICTLY STARCH-FREE

STRICTLY SUGAR-FREE

Listers CASEIN-PALMNUT DIETETIC **Flour**

is strictly starch-free, self-rising and easily made into a variety of foods in any home. Recipes accompany each carton of flour. Large carton, Listers Flour (enough for 30 bakings) . $4.85.

Sold by leading druggists, fancy grocers or direct

LISTER BROS. INC. 41 E. 42nd St. NEW YORK, N. Y.

Coming in HYGEIA

The First Baby in the Home

For those fond parents whose life is a constant question mark while the first baby is new. Suggestions on making the first baby like what he should have, about his clothes, summer digestive complaints, temper tantrums, and so on.

The Misery Clinic

A noted psychologist tells of the strange cases of "nerves" that come to his attention and recommends a philosophy for readjustment.

Getting the Most Out of Our Muscles

An enlightening article telling how professional "strong men" make clever use of their muscles, and how anyone can make the lifting or carrying of burdens easier for himself.

Hunger

How long can a man live without food? Do "tonics" stimulate the appetite? Questions like these are answered for you in this fascinating special feature.

Crammed from cover to cover with intriguing and practical health articles, the coming issues of HYGEIA are too good to miss. If you have never subscribed to HYGEIA you will surely want to become a regular reader now by availing yourself of the special offer below. The regular rate is $3.00 a year, but this special price is made to new subscribers.

INTRODUCTORY OFFER—6 Months for $1.00

American Medical Association,
535 North Dearborn St., Chicago

Please send me HYGEIA for 6 months, beginning with the July issue. I am enclosing $1.00 in payment.

Name .....

Address .....

INDIAN MEDICINE MAN IS PASSING

Civilization is rapidly wiping out the Indian medicine man and his art, says Donald A. Cadzow, a scientist of the Museum of the American Indian, writing in the *Scientific American*.

In some tribes, however, there still remain a number of men and women who are credited with supernatural powers which enable them to recognize, antagonize or cure disease at will. Fake doctors who used "magic" and "thought cures" have prospered in some tribes, but the real medicine man uses herbs, barks and roots. Many botanists have been amazed at the knowledge some Indians have of flora of regions at great distances from their homes.

The medicine man's knowledge has been handed down through the ages and many an old man is taking his secrets to the grave rather than have them used by some one who does not sincerely believe in the old Indian ways, the writer declares.

Animal and mineral substances are used widely among medicine men in the southwest. The bite of a snake is treated by applying to the wound a portion of the ventral surface of the body of the same snake. Papago doctors sometimes made their patients eat crickets as medicine; the Tarahumare doctors, lizards; and the Apaches have great faith in spider eggs.

The Hopi Indians blow fire on an inflamed surface to counteract the supposed fire within the body.

Some of the more accomplished medicine men have practiced a primitive surgery from ancient days, the most complicated operation being trephining of the skull. Dental surgery has been found in very old skulls. Explorers have discovered teeth with the enamel skilfully scraped off and round gold disks inset. Teeth are still extracted by painful methods among many tribes.

The Piute Indians inflict severe penalties on the "doctor" who does not work a cure. There is an unwritten law that if three patients succumb to disease the doctor is put to death. Sometimes he is killed for refusing to treat an ailing person when asked to do so by relatives.

Gainful employment under modern conditions all too often stifles the natural impulses, cramps the personality, and creates health hazards more subtle than can be tabulated under a list of industrial accidents.—*Dr. Richard Bolt.*

CONGRESS HONORS YELLOW FEVER HEROES

The work of the Yellow Fever Commission of 1900, which determined that yellow fever is transmitted by the mosquito *Stegomyia fasciata,* has now been officially recognized by the Congress of the United States. The names of the twenty-two members of the military establishment who risked their lives in the investigation will constitute a roll of honor that is to be published annually in the Army Register. Gold medals will be presented to those still living and to representatives of those who have died. A pension of $125 per month is to be paid to the sixteen living men and to the widow of one of the soldiers.

The men thus honored by Congress volunteered to be injected with blood from patients dying of yellow fever or to be bitten by infected mosquitoes, to sleep in beds in which victims died and to wear clothes of patients who died. Through the work of this commission, of which Major Walter Reed was chairman, yellow fever has been driven almost from the face of the earth.

"In the further recognition of this achievement and in honoring and assisting these men, Congress has reflected great credit on the whole country," comments *The Journal* of the American Medical Association. "The world has received the benefaction they bestowed."

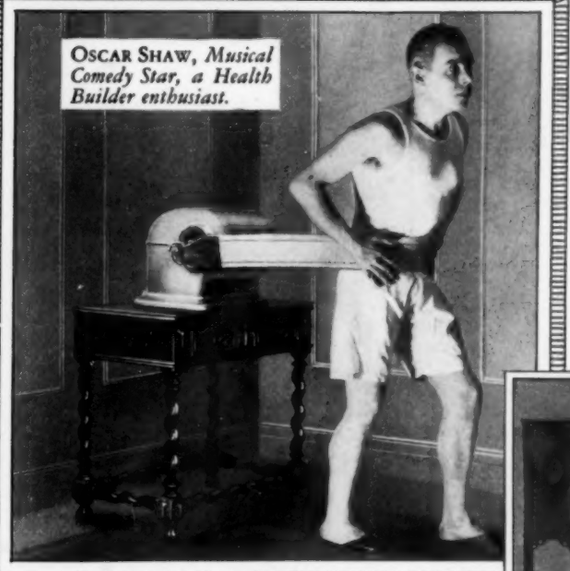
COLONY FOR TUBERCULOUS IS SUCCESS

An industrial village for patients with arrested tuberculosis has proved a successful venture in England. The village of Papworth, founded in 1916, has a population of about 700, including families of 200 patients and 129 ex-patients.

The patients live in a central institution, which includes a hospital and sanatorium. Ex-patients live first in chalets or small shelters, then in hostels and eventually in the village settlement. The industries include carpentry and joinery, building, cabinet-making and upholstering, the manufacture of leather goods, a poultry farm, horticulture, book-binding and the maintenance of the Papworth Industries Stores.

Papworth definitely proves that the tuberculous man can keep himself by his own labor and lead a contented life, comments Dr. Arthur Laird in the American Interprofessional Institute *Quarterly.* Segregating sufferers in this way obviates the risk of spreading infection.

KEEP FIT in 15 minutes a day



OSCAR SHAW, *Musical Comedy Star, a Health Builder enthusiast.*

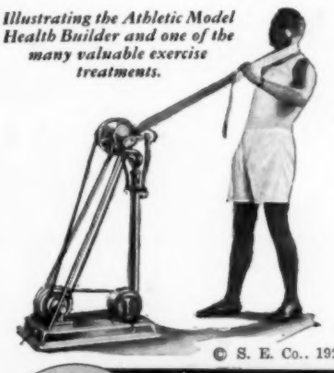
DOROTHY KNAPP, *world-famous beauty, says, "I unhesitatingly recommend the Health Builder to everyone interested in keeping radiantly healthy".*

NEVER before has health been so important an asset for business and social success as it is today. Never before has the pressure of modern living put such a strain on physical condition. You simply *must* **KEEP FIT**—without waste of time or effort.

Oscillate Your Way to Health

There is only *one* way to keep fit—DAILY physical exercise. Science now makes this possible, and in a most enjoyable, simple new way. Just 15 minutes a day of invigorating massage and vibratory-exercise with the famous Battle Creek Health Builder, manufactured under the patents of Dr. John Harvey Kellogg, awakens each tiny capillary into new activity, stimulates the perspiratory and sebaceous glands, vigorously massages the heaviest muscles, helps eliminate dangerous body poisons, and aids in general reduction of body weight.

Illustrating the Athletic Model Health Builder and one of the many valuable exercise treatments.



© S. E. Co., 1929

The Result of Years of Development

No other appliance can produce the same effects as the Health Builder. Improved year by year, as a result of long study and research by an eminent physician, the action of the Health Builder is perfectly synchronized with human muscle tone.

A Health Builder for Every Requirement

Ideal for home use is the Universal Home Model, a compact, enclosed Health Builder. The Athletic Model is very popular for clubs, home gymnasiums, colleges, health centers, institutions, steamships, etc., while the handsome De Luxe Cabinet Models combine utility with distinctive beauty.

Health Facts for You—FREE!

Send at once for "Keeping Fit in Fifteen Minutes a Day"—a valuable FREE book showing how the Health Builder keeps you fit. Health should come *first!* Write for your copy—NOW!

Sanitarium Equipment Co.
Room AP-1857 Battle Creek, Mich.

Choice of 80,000 Because Medically Correct

The Battle Creek Health Builder *Keeps You Fit!*

Clapp's
ORIGINAL APPROVED
BABY SOUP
AND
STRAINED
VEGETABLES

The Badge of Health Foods
In Glass Jars
For Infant Feeding
TO SUPPLEMENT THE MILK DIET
Prescribed by over 5,000 Specialists—

Because they are scientifically prepared under surgical standards of cleanliness and supply the elements needed for sound growth.

Because they cost less than if made at home and save a Mother at least 24 hours a week kitchen time and give her these extra hours to be out of doors with baby.

Because they are easily carried, keep indefinitely when sealed, are ready to use except for diluting and heating and so are equally convenient for feedings at home or traveling.

Clapp's Baby Soup. An appetizing combination of Beef Juice, Vegetables and Cereals.

Clapp's Wheatheart Soup, a combination of Vegetables, Cereals, and the Wheat Germ which supplies Food Iron and VITAMINES A and E abundantly.

Clapp's Strained Vegetables
Spinach, Carrots, Asparagus, String Beans, Peas, Beets, Tomatoes, Prunes and Apricots.

Are all scientifically prepared from carefully selected materials, especially for growing babies and are immensely liked by them.

These are simply wholesome, healthful foods, packed for convenience and economy in 4 oz. glass jars—Soups, also in 14 oz. jars.

Ask Your Doctor
and write us for your Dealer's name
HAROLD H. CLAPP, Inc.
1340 University Ave., Rochester, N. Y.

MENTAL HEALTH HABITS FOR GIRLS

Success in life depends on mental as well as physical health. In a textbook on home making for high school girls, Miss K. W. Kinyon, director of home economics in the public schools of Denver, and Prof. Thomas L. Hopkins of the department of education in the University of Colorado, list the following habits the mentally healthy girl should have developed:

Adjusting herself easily to her environment.

Keeping cool in an emergency.

Meeting difficulties calmly and settling them without delay.

Persevering in spite of difficulties.

Acknowledging error.

Correcting mistakes if there is an opportunity.

Concentrating on the work at hand.

Thinking clearly, accurately and constructively before acting.

Securing happiness in whatever work she undertakes.

Assuming responsibility without nervousness or worry.

Believing in her own ability.

Attempting to attain her ideals.

Recognizing but not advertising her own shortcomings.

RESTAURANT ENFORCES HEALTH RULES

A restaurant owner in Dayton, Ohio, realizing that health protection of the public is a part of good business methods, posted the following rules for his counter salesmen, quoted in the bulletin of the Dayton health department:

Don't go behind the counter without first washing your hands and seeing that your finger nails are clean.

Don't handle the coffee mugs by grasping them with your hands over the top. Always place them on the tray by holding them by the handle.

Don't wipe your hands on your coat or trousers. Always have a damp cloth under the counter for that purpose. It is much more sanitary and the customer seeing you use it will be much more likely to return.

Don't handle food with your fingers. Use a fork, spoon or tongs. You should know that your hands are clean, but the customer does not.

Don't taste food while at the counter. If it is necessary for its quality to be tested, take a small portion in a dish to the kitchen and have the manager or chef test it.

What do you know about yourself?

No need any longer for being puzzled by the talk of doctors for not really knowing the truth about your body, either in health or disease—

Read
Dr. Francis W. Palfrey's
New Book

THE FACTS OF MODERN MEDICINE

490 pages packed full of fascinating information about your body. *Dr. Joseph Collins* says of it: "If the layman will read Dr. Palfrey's book and assimilate it, his life should be longer and fuller." Interesting illustrations. $5.00.

D. APPLETON & COMPANY
35 West 32nd Street New York

STOP
Thumb-Sucking
JUBILEE
BABY ARMLET
Aluminum—Adjustable
$1.00 Pair
Also corrects Nail-Biting
A safe, easy, kindly way. Invaluable if suffering from Eczema or other skin disease. Allows free movement, even considerable bending of elbow. Loose fitting, light, sanitary, cool. Snap fasteners, adjust to 5 different sizes. Handy. At drug or surgical supply houses, or postpaid on receipt of $1. If more convenient, order C.O.D. and pay postman $1.10 on delivery.
JUBILEE MFG. CO., 21 Sta. C., Omaha, Neb.

CAMP
TRADE MARK
Maternity Supports
Scientifically designed in types of models for all figures, gives low abdominal uplift with no constriction.

Special feature—Original patented adjustment supplying sacro-iliac support and easy regulation to size and pressure as required.
Wonderful reaction to normal health, and mental and physical buoyancy.
Write for special information.
S. H. Camp & Co.
Jackson, Mich.
Mfgs.
Fisher & Burpe, Ltd., Manufacturers for Canada
Winnipeg, Manitoba

Representatives for Hygeia are wanted in every community. Generous commission. Send for full details.

SUMMER SCHOOLS FOR HEALTH

Summer health schools for undernourished children and those living in close contact with cases of tuberculosis have been established in Los Angeles County, Calif. There are at least 2,000 such children in the county, according to the *Western Hospital and Nurses' Review.*

The schools are held in the regular school buildings and are supported in part by each community. In the summer of 1928 more than 500 children in eighteen communities attended the summer health schools. An adequate staff of trained workers is provided, including pediatricians, nutritionists, physiotherapists, public health nurses and child psychologists.

The sessions of the school are from 9 to 3 o'clock. The children have lessons in health education and are shown the practical application of what they are taught. They have sunbaths, light midmorning and midafternoon lunches, directed exercises for posture, regular rest periods interspersed with handcraft or other activities.

Twice during the summer mothers of the children are requested to come for personal conferences and it frequently develops that the health lessons that the children learn at school are carried over into their homes. Experience has shown that 65 per cent of them maintain the gains in health through the winter, the activities are incorporated into the routine of regular schools and a civic health consciousness is initiated in the communities.

COURSE FOR TEACHERS OF FRESH AIR CLASSES

Fresh air classes for children who have tuberculosis or who are in danger of developing it are becoming increasingly popular and with them has developed the need for special teaching methods. Recognizing this need, Teachers College, Columbia University, in cooperation with the National Tuberculosis Association, will offer a course in this field of teaching at the coming summer session.

The main topics to be dealt with will include: types of children selected for these special classes; psychology of handicapped children; physical surroundings and equipment of special classes; the schedule and teaching methods; children who fail to improve; cooperation of the home and the special class; special problems.

Silver-Shining Beauty!

Some "best cooks" may *think* they use aluminum simply because it does such good cooking. Or because it is so light and manageable. Or because it is so everlastingly durable and economical. But, realize it or not, there is another reason. It is aluminum's silver-shining beauty.

Silvery aluminum on the stove. Silvery aluminum in ordered rows along the wall. Silvery aluminum illuminating the dusky depths of cupboards. Reflecting every glint of sunshine; harmonizing with every color scheme; keeping the kitchen alight and alive with a beauty of which one never wearies . . .

No wonder so many women prefer the "precious metal of the kitchen!" There's its beauty. There's its cooking ability. There's its hygienic cleanliness and cleanableness. There's its economy.

The "best cooks" ask no more. *They use aluminum.*

MAIL COUPON FOR BOOKLET

ALUMINUM WARES ASSOCIATION

Publicity Division, 844 Rush St., Chicago

Please send booklet, "The Precious Metal of the Kitchen," to address written below

HAY FEVER

has been prevented in thousands of cases with

POLLEN ANTIGEN

Introduced by the
LEDERLE ANTITOXIN LABORATORIES
in 1914

Since the introduction of Pollen Antigen Lederle, each year has added evidence to the value of this product in the prevention or relief from symptoms of Hay Fever, and each year an increasing number of physicians have familiarized themselves with the Hay Fever problem and are relieving patients of their seasonal attacks.

LEDERLE ANTITOXIN LABORATORIES where Pollen Antigens were developed in 1914

PROPHYLACTIC TREATMENT

may be commenced as late as two weeks before the date of the expected attack. Fifteen graduated doses of an appropriate Antigen are required. Patients usually suffer little inconvenience from the injections, and many are completely protected from Hay Fever attacks.

Consult Your Physician

LEDERLE ANTITOXIN LABORATORIES
NEW YORK